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This serial publication, based on worldwide press and radio reports, contains information on the epidemiology of human, animal, and plant diseases. Disease incidence, reported outbreaks, and various related epidemiological factors are included. Items are presented by country of occurrence rather than by country of original press report.

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## I. HUMAN DISEASES

### WORLDWIDE AFFAIRS

#### CHOLERA CONFERENCE IN PACIFIC NEXT MONTH

Wellington THE EVENING POST in English 11 Jan 78 p 9

[Text] A conference aimed at preventing the spread of cholera throughout the Pacific will be held in Suva from February 1 to 3.

The conference, which follows the lethal outbreak of the water-borne disease in the Gilbert Islands late last year, will be attended by medical representatives from New Zealand, Australia, Britain, France, and the United States, as well as Pacific islands.

New Zealand representatives will be represented by the deputy Director General of Health (Dr R. A. Barker), the Health Department's principal medical officer of international health (Dr A. J. Sinclair), and the National Health Institute's chief microbiologist (Mr Desmond Till).

Dr Sinclair said the World Health Organisation-sponsored conference would discuss the medical implications of cholera in the South Pacific.

He said likely topics for discussion were surveillance of ports, quarantine procedures, the necessity for vaccinating travellers and populations, equipment required to deal with outbreaks, the management of laboratories, the clinical management of cholera patients, and the treatment of water and sewage supplies.

Emphasis was also likely to be put on the desirability of improving water and sewage reticulation.

The spread of cholera in the Gilberts was attributed to sewage contamination of water supplies.

Dr Sinclair said that although improvements in sewage and water reticulation were desirable, they would have to be looked at as only long term solutions.

The costs involved in bringing standards up would run into hundreds of millions of dollars.

#### LATIN AMERICAN AFFAIRS

##### PAHO DIRECTOR ON LATIN AMERICAN HEALTH SERVICES

Santo Domingo Radio MIL Network in Spanish 1000 GMT 6 Dec 77 FL

[Text] The director of the Pan American Health Organization [PAHO] yesterday voted for the introduction of reforms in state health systems of Latin American countries. At a press conference granted at the start of the 14th regional seminar on the administration of health services, Dr Hector Acuna said: In order for community participation to be effective and for us to be able to offer primary health services, it is necessary to undertake a series of technical and administrative reforms in the health services structure.

Dr Hector Acuna stated that the aim of the seminar, which began yesterday at the Fabiola Hotel, is to modify health techniques and [social] security services of Latin American countries. He maintained that the personnel rendering medical services in Latin American nations have been trained in countries with greater degrees of development and having other types of health needs.

Santo Domingo Radio MIL Network in Spanish 1000 GMT 6 Dec 77 FL

[Text] It is not necessary to bring medicine under state control to guarantee a high level of medical services coverage on the continent, PAHO Director Dr Hector Acuna stated yesterday. At a press conference, the PAHO director expressed his belief that it is not necessary to go to the extreme of placing all health services under government control for the entire population to benefit from them. Dr Acuna said that while Cuba has achieved full health services coverage through state control, countries such as Canada and the United States have reached the same goal without their governments having to do the same thing.

The PAHO director defended every country's right to choose the path for reaching a good level in needed health services for its population. Dr Hector Acuna granted a press conference at the start of the 14th regional seminar's work sessions on the administration of health services. The purpose of the event, which will last until Saturday,

is to exchange information to accelerate the process of expanding health services coverage in Latin American countries. Participating in the conference are the 50 official delegates from American countries.

#### AFGHANISTAN

##### MALARIA CONTROL

Kabul ANIS in Dari 29 Aug 77 p 8

[Text] In an effort to control malaria, 8,915,220 individuals in malarial regions of the country were immunized during the first 3 months of this year [Afghan year starts 21 March]. A source at the chairmanship of the National Institute for the Control of Malaria in announcing this news said that during that period of time 591,040 blood samples of febrile individuals were taken in the foci of six malarial areas by the personnel in charge and as a result the presence of malarial parasites has been ascertained in the blood of 17,591 individuals. The source added that this indicates that compared with the 3 months' period of the past year there is a 50 percent decrease in the number of individuals affected with malaria. The source also said that in addition to the surveillance program of cases found in hospitals of Kabul, Kandahar and Jalalabad, 1,078,289 individuals were immunized against malaria in the above-mentioned provinces. Likewise, during the aforesaid 3 months 5,294,680 gambusias from the existing reserves were distributed in various malarial areas and breeding places of mosquitoes.

Kabul ANIS in Dari 10 Sep 77 p 8

[Text] During the first 5 months of the present year [begun 21 March] the incidence of malaria in the Nangarhar Province and in the major district of Shinwar, compared with its incidence during the first 5 months of the past year, has decreased by 92.8 percent. A source at the Directorate for the Control of Malaria in Jalalabad said that out of 69,578 slides of blood collected from the sick with a fever in the capital and dependencies of the province of Nangarhar by the scientific personnel of malaria control in Jalalabad and Ghaziabad, and examined in the pertinent laboratories, it has been established that 2,586 cases were malaria positive. The source added that the sick, suffering from malaria, after being administered medications, should continue to be treated and recover in their homes. The source also said that during the first 5 months of the past year out of 165,568 slides of blood, 36,150 of them were malaria positive.

Kabul THE KABUL TIMES in English 28 Dec 77 p 1

[Text] Baghlan, Dec. 28 (BAKHTAR)--The malaria cases have reduced by forty per cent in Baghlan province in the last nine months compared to the same period the previous year.

A source of the Malaria Control Department in Baghlan said of the 56,031 blood slides taken from patients in different areas, 906 positive malaria cases were noticed. Last year in the same areas 1,297 positive cases were observed. The patients suffering from malaria are given medicines and have now fully recovered.

Kabul THE KABUL TIMES in English 1 Jan 78 p 2

[Editorial: "Malaria Eradication"]

[Text] Malaria has been resurging across Asia over the past few years and international health officials say malaria incidence will increase significantly again this year. But in Afghanistan encouraging reports are being received from the provinces. The cases are on the decrease in the disease infested parts of the country.

This has been made possible by the keen interest shown by the Public Health Ministry in controlling and annihilating malaria from the face of the country which has made extensive inroads not only in Afghanistan but in whole of the Eastern Mediterranean region.

The Government of the Republic of Afghanistan gives top priority in all its development plans to the welfare of the majority of the population, and on the basis of this the Ministry of Public Health has compiled its National Health Program giving prominent place to fighting epidemics including malaria and lashmania (oriental sour).

The Republican government has allocated as much funds as within its means for health projects, the remaining is being sought from international organisations and friendly countries. Despite all these efforts the malaria situation still remains a cause for concern.

Albeit malaria cases have been reduced by 40 percent in Baghlan province during the last nine months, as compared to the same period last year and two percent in Neemroz province, nevertheless the outlook is still bleak as far as medicinal supply is concerned.

The Malaria Control Department continues its drive against the epidemic and finds the task more difficult than a few years ago. The malaria parasite carriers have now become DDT resistant and more deadly insecticides, which are costly at the same time, are needed.

Chloroquine, the main preventive and cure for most forms of malaria and Primaquine, another quinine-based drug used to treat malaria are in large supplies but not in as much quantity as needed. The Malaria Control Department has more than nine million people under surveillance and a considerable part of them receive full treatment.

The WHO and UNICEF, the major suppliers, will have to further augment cooperation in order to save Afghanistan from scourge of malaria epidemic. The minor increases in cases occurrence in Kunduz and Khanabad add to the gravity of the situation.

The government of the Republic of Afghanistan is bent to do all in its means to wipe out the disease which strikes in some of the most agriculturally important parts of the country and in the long run may inflict heavy economic losses by cutting to size the manpower applied in agriculture production.

The Malaria Control Department has been seeking aid from all potential donors and it is hoped that the insecticide requirement of Afghanistan will be met in 1978 to the highest possible extent. With the basic impediments removed the Malaria Control Department is quite capable of waging a full war against malaria.

#### VACCINE AND SERUM MANUFACTURE SET UP

Kabul ANIS in Dari 18 Sep 77 pp 5, 8

[Interview with Ms Aziza Bahjat, deputy chief of Directorate for Manufacture of Vaccines, by Ms Zahra, reporter of ANIS]

[Text] This facility, fitted out with all the necessary equipment, and whose construction is more than 90 percent completed, may be in operation by the end of the year 1356 [1977-1978].

In order to insure and safeguard the health and life of the people all over the country, both in the capital and in the remotest rural areas and villages, it is necessary to pursue continuously programs of prophylaxis and control, so that with aid of such comprehensive plans of control and establishment of fundamental projects we might be able to assure the safety of the life and health of the people.

Based on this idea, from its very beginning the Republican Government undertook, with great foresight, the establishment of health projects and development plans which form the basis of the insurance and promotion of the health care of the people, and each of these projects in some way or other will safeguard the health of our people.

Fortunately putting into effect the law on generic medications as well as the increase in the number of basic health centers, the construction

of zonal hospitals, the broadening of vaccination activities all over the country, providing safe drinking water, and dozens of other measures in the field of public health has been accomplished. On this basis, and in order that general activity in this sphere be further expanded and that deadly diseases such as tuberculosis, typhus, poliomyelitis, and others, be brought under control, the facility for manufacturing vaccines with an abundant production capacity is beginning its work and will make easier our efforts toward a mass immunization of the people against diseases.

In order to get more information about this institution, its activity, and its effect on the generalization of public health, we had a talk with Ms Aziza Bahjat, deputy chief of the Directorate of the Manufacture of Vaccines, whose content is as follows:

In 1351 [1972-1973] the present facility is remembered as a supplier of vaccines, established under the name of the Institute of Bacteriology, whose aim was to form a base for the cooperation with that group of graduates of the Faculty of Medicine who after their graduation had to undergo a special training that included laboratory work in order to make it routine practice in the country with the aid of this institution. In fact, the Institute of Bacteriology was then the only facility in Afghanistan. Later, with the opening of similar facilities to take care of particular requirements of the country, the activity of the Institute of Bacteriology was limited, and in recent years it was restricted to supplying vaccines against typhus, cholera, rabies, and autovaccine, which under the present conditions and possibilities at our disposal is of enormous help to governmental and individual institutions.

In answering another question Ms Bahjat said:

The plant for the manufacture of vaccines and serums has been erected halfway between Kabul and Kargha over an area of 24,000 m<sup>2</sup> and will be equipped with all the necessary machinery. Its construction has been completed up to 90 percent and it is expected to be in operation by the end of 1356 [1977-1978].

Ms Bahjat added that a major part of the Seven-Year Development Plan is devoted to public health whose shortcomings are being eliminated. Now, we are being faced in our country with a vigorous activity in this field. One of its results is the creation of a plant for the manufacture of vaccines and serums. Up to now, with our limited possibilities, we absolutely could not meet our overall requirements for vaccines, and naturally this shortcoming exposed our country to all kinds of diseases and made their prevention difficult.

On the other hand there was no sufficient supply of vaccines and no proper surveillance was available, so that during the outbreak of

epidemics they could not be controlled properly, whereas at present not only vaccines and serums are supplied according to the needs of the people, but even because of their production exceeding the requirements of the country, they can also be supplied to countries friendly to Afghanistan.

Ms Bahjat also touched upon the problem of the training of the personnel of the plant and the enlightenment of medical personnel as to the modern state of science, and said that this is being done in all respects.

As regards the training of personnel in the production of vaccines, not only a number of young people were sent abroad, so that after acquiring expertness in the required branches of knowledge they might successfully apply it to duties entrusted to them, but likewise in accordance with a general Afghan national policy concerning public health programs it is also being endeavored through the organization of courses on the pertinent subjects to increase the proficiency of the personnel and specialists and to make their acquired experience more fruitful.

In conformity with this principle, in addition a group of scientific personnel of the Institute of Public Health and the Plant for the Manufacture of Vaccines is engaged in acquiring knowledge and experience in the Pasteur Institute of France, and this series of programs inside the country and abroad will be continued until the scientific cadre of this facility is in every respect self-supported.

Ms Bahjat continued by saying that the French and West German governments have concluded agreements with Afghanistan concerning the training of Afghan personnel and that their cooperation continues in accordance with the agreed plan.

The French Government, in addition to the training of Afghan personnel in special areas of knowledge required by the project, is also providing some financial help. The West German Government likewise provides assistance by supplying technical equipment.

Ms Bahjat said further that, as was previously mentioned, the implementation of the project of the manufacture of vaccines and serums is a part of the health plan of the country, and the overall amount of outlays which the government is making for this developmental project is approximately equal to 140 million afghanis, while the total expenditures until the completion of the project will amount to 250.5 million afghanis.

Ms Bahjat concluded by stating that the new facility for manufacturing vaccines has a rated daily production of 7.15 million vaccine doses, a part of which will probably satisfy the overall needs of the people, and the rest will create the possibility of being exported to other countries.

## MASS IMMUNIZATION PROGRAM SUCCESSFUL

Kabul THE KABUL TIMES in English 6 Dec 77 p 2

[Editorial: "Mass Immunization"]

[Text] Afghanistan was declared a small-pox free country at the beginning of this year after the assessment and inspection of documents and on the spot study of the special WHO team which came to Kabul for this purpose.

This was a no mean achievement and was made possible as a result of ceaseless efforts of the Ministry of Public Health and other related bodies with the cooperation of the government of Afghanistan and international organisations. For eradication of small-pox mass immunisation was a major weapon and the program was implemented in most difficult conditions of climate and topography.

Eradication of small-pox does not end the task of the Republic here which considers creating conditions for sound health of the compatriots as its foremost task. Incorporated in the policy statement of the Republic was tending to the health of the compatriots, and now it is getting priority.

The Ministry of Public Health, already, has plans for mass immunisation of the population against other killer diseases like tuberculosis. By the end of the Seven Year Development Plan many of the goals will be achieved. Most of the attention of the Public Health Ministry is now focused to paediatrical diseases which form the core of the problem of health.

Efforts are already underway for mass vaccination of children against measles, tuberculosis, polio, diphtheria, whooping cough, and small-pox. By the end of the Seven Year Plan the Afghan National Health Program will cover the major portion of the national population, and will immunise, as stipulated, in the program, all the children against common diseases.

Vaccines to fight diseases and for mass immunisation in human beings and animals have been produced in Afghanistan since thirty years, but in small quantities, and only a few types. Afghanistan will be producing large number of vaccines by the end of 1361. By the end of the current year the nation's first major production centre will begin trial operation. The centre has been planned and built with the financial assistance from France and Federal Republic of Germany. When fully operative it will produce over seven million doses per day.

The commissioning of the vaccine producing centre called Pasteur Vaccine Production Institute will provide new impetus to the mass immunisation program of Afghanistan.

Besides the French and West German assistance in vaccine production many international organisations are cooperating with Afghanistan to make success its mass immunisation program.

Afghanistan has been regularly attending international health meets to obtain further assistance and to inform the member countries its point of views on public health. The Cairo mass immunisation conference sponsored by the World Health Organisation is a gathering which will focus on mass immunisation activities in the eastern Mediterranean region.

It is our ardent hope that the Cairo conference will bring forth more effective ways for controlling diseases and mass immunisation of the population, particularly in the least developed of the developing countries.

#### ANGOLA

##### TUBERCULOSIS VACCINATIONS

Luanda JORNAL DE ANGOLA in Portuguese 22 Dec 77 p 6

[Excerpts] There are many tuberculosis cases in the world. And also in Angola: between 15,000 to 20,000 people have tuberculosis.

The best means of avoiding tuberculosis is by vaccination with BCG [Bacillus Calmette-Guerin]. Everyone under 15 years of age in the RPA [People's Republic of Angola] should be vaccinated under the Expanded Vaccination Program. Those who are 15 years old or over, however, can be vaccinated should they need it. To find out, they can go to the Antituberculosis Dispensaries: Luanda, Malanje, Benguela, Bie, Mocamedes, Huambo and Huila, or to the Health Center nearest their home. Children should be vaccinated immediately after birth if they weigh 2.5 kg or more. Another weapon against tuberculosis is a well-ordered life, personal hygiene, good, balanced nutrition, and sufficient rest after work or sports.

However, before you are vaccinated, you can contract tuberculosis. Be careful of your health and be on your guard. If you or anyone in your family or among acquaintances should have a cold and this cold does not clear up, if it lasts more than 3 weeks even when you are taking some medication for it, do not waste time. Go to the doctor, to the Health Center nearest your home or your place of business and say: "I have had a cold for over 3 weeks and I can't get rid of it." They will have to test the sputum to find out whether or not it is tubercular. And you will always have to undergo treatment.

## BANGLADESH

### ASIA FREE FROM SMALLPOX

Madras THE HINDU in English 15 Dec 77 p 7

[Text] New Delhi, Dec. 14--The World Health Organisation (WHO) on Wednesday declared Bangladesh free from small-pox and announced that this dreadful disease had now been wiped out from the face of Asia.

The last case of small-pox in Bangladesh was reported in October, 1975 and a certificate declaring the country free of small-pox was issued on Wednesday in Dacca, a WHO press release said.

Issuing what he called "The death certificate of small-pox in Asia" the WHO Director General Dr. H. Mahler said that global abolition of small-pox vaccination would become possible by 1980, a step that would save two-billion-dollars to the world community.

The three year-old Rahima Banu of Bangladesh was the last case of the severest form of small-pox (variola major) on earth. A milder type of small-pox (variola minor) still occurred in the horn of Africa, particularly in Somalia, but there too the incidence was steadily declining, Dr. Mahler said.--SAMACHAR.

## BRAZIL

### PORTRAIT OF A SICK COUNTRY

Sao Paulo VISAO in Portuguese 14 Nov 77 pp 37-38, 40

[Text] More than half of the population sick. Situation deteriorating because of very poor living conditions in certain regions of Brazil.

Brazil is becoming wealthier: indeed, during the past few years, the growth rate of the GNP has exceeded that of the population, with the resultant increase in per capita income. Nonetheless, it is a country with increasingly serious public health problems. Although in most cases official statistics are incomplete or out of date, it is estimated that Brazil has one of the least healthy populations in the world. So sick, in fact, that the present minister of health, Paulo de Almeida Machado, once admitted, in making a calculation, that if it were possible to distribute equally among the whole population the total number of recorded endemic cases, each inhabitant would have at least two diseases.

This unfortunate public health profile implies disastrous consequences for the country. In addition to detracting from the theoretically available labor force and reducing the average life expectancy throughout most of the territory, it consumes resources that are economically significant to a country seeking to develop itself and improve the quality of life of its people.

More than one-half the population is sick. There are millions suffering from Chagas' Disease, tuberculosis, leprosy, forms of schistosomiasis, and malaria or mental disease. Nearly 80 percent of those on the lowest socioeconomic level are anemic because of iron deficiency, according to the National Food and Nutrition Institute [INAN].

One out of every three children hospitalized with dehydration in Greater Sao Paulo dies and the average is even higher in the Northeast.

According to a number of specialists in this field, every single inhabitant of Brazil suffers from some health problem or other. Those who are not carriers of any endemic disease have, in some form or other, what is known as a "health deviation." In other words, they carry diseases which are not characteristic of the masses, and which are supposedly less serious, including hypertension, diabetes, syphilis, heart disease and glandular disturbances that nonetheless consume national medical resources. Also, there are over one-half billion teeth to treat. On the average, every Brazilian has five teeth which require either filling or extraction. Thus, this would involve 1 year's work by the 41,000 dentists in the country but would not solve the problem, because an additional 1.2 million teeth would then be ready for treatment. Again, figures show that by age 25, the young Brazilian man or woman has one-third of his teeth damaged by cavities or lost by extraction.

#### The Brazilian Picture

However, the inventory of poor health is much longer and more serious. According to official estimates, there are approximately 300,000 persons suffering from tuberculosis. The Koch bacillus which causes the disease has already infected some 50 million inhabitants. Nearly 12 percent of the children enrolled in the first grade are already infected when they reach school and are thus likely to transmit the tuberculosis bacillus to others.

Nevertheless, Health Ministry statistics indicate that the incidence of the disease is diminishing; according to official sources, during the last 3 years, it has declined from 500,000 to 300,000 cases.

A country traditionally lacking in statistics, Brazil naturally does not have an accurate assessment of the true size of its health problems. Insofar as mental disease is concerned, it has been concluded that there are approximately 18 million Brazilians afflicted with these

disorders; half of them are neurotics, not incapacitated for work. Six million are alcoholics.

Yet what credibility can we ascribe to such data if they were calculated by extrapolation, based on indices recorded in other countries? There are no official surveys to enable the government to even formulate plans for combating the diseases.

Discrepancies likewise arise in connection with other diseases. Public health experts, for instance, refer to 1 million lepers. The Health Ministry acknowledges 140,000 "suffers of Hansen's disease." ("To avoid a poor impression," in official data, the term Hansen's disease is used rather than leper, it is said.) It is known, however, that each year at least 9,000 new cases are reported. What is more, 90 percent of the lepers are over 15 years old--that is not to say that the disease in Brazil does not also attack children. There are recorded cases of those under 5 years of age and old people. In a simple estimate, Brazil loses, in production, a half billion cruzeiros annually, assuming that one leper could produce 10 cruzeiros daily.

Chagas' Disease affords us by far the clearest example of inadequate public health data. Official Health Ministry sources refer to a total of 6 to 14 million Brazilians afflicted, as if a difference of 8 million persons was statistically acceptable. But the true number of those with Chagas' Disease in Brazil will be known in 1 year's time when the national survey now under way is completed. There will then remain but one problem: How will the number of new cases be determined?

At any rate, knowledge regarding the range of endemic diseases is not enough to eradicate them from Brazil. Often, the solution is not exclusively in the hands of the public health authorities. Chagas' Disease is associated with the housing problems of the majority of the country's population. Because housing is inadequate--there is neither money to buy houses nor anyone interested in building them in the residential localities and conditions of those with Chagas' Disease--the rural population continues to live in adobe-walled units, an excellent place for the barbeiro [insect transmitter of the disease] to live.

Worse still, in addition to transmission by the barbeiro, Chagas' Disease is transmitted through blood transfusions from infected donors. The insect is already rife over 2 million square kilometers of Brazil's territory, that is, almost 25 percent of the entire country. Endemic to the poorest rural regions, it has now spread to developed states such as Rio de Janeiro. In the northeast, it attacks weakened organisms. In the region, one frequently encounters persons afflicted by schistosomiasis, Chagas' Disease and trachoma. Or they may suffer from any one of the three diseases in addition to tuberculosis, which is twice as prevalent in the northeast as it is among the inhabitants in either the south or the east.

Control of endemic diseases sweeping the country would seem to call for integrated action. It is clearly a government problem, as is the case of schistosomiasis. Officially, there are 12 million cases, although certain public health authorities claim the accurate number may be higher than 14 million. Solely in an attempt to control schistosomiasis in the states of Mato Grosso and Amazonas, the government will spend a total of 3 billion cruzeiros. Yet this is not an unreasonable sum. Health Minister Almeida Machado has acknowledged that if the vector snail invades and takes over the rivers and marshlands of these two states, it would be most difficult to eradicate the disease from Brazil, not only because it would be more easily transmissible given the large amount of water in the area, but also because of the high reproductive-rate factor of the vector: in 3 months, a single snail breeds 90 million mollusk.

The program to combat schistosomiasis includes the construction of thousands of baths by the Special Public Health Service [SESP] Foundation. However, experience has shown that unless public health education is introduced at the same time, all efforts to eliminate the disease in the endemic areas will be in vain. The bathrooms already built in the northeast, attractive rooms painted blue and white, are rarely utilized for the purposes for which they are intended. Most people prefer to keep them for parties or to safeguard the family's most precious possessions. In addition, the waters contaminated by the schistosomiasis vector continue to be used for washing clothes, bathing, and sometimes even for drinking purposes.

#### Has Public Health Improved?

Paradoxically, aspects of the Brazilian health profile, according to government statistics, suggest the regression of some diseases. This is the case of malaria, which would appear to be declining at the rate of 10 percent annually. According to the Health Ministry, there are 80,000 carriers in the country. Yet, can this figure serve as any consolation when we know that malaria extends over 81 percent of the national territory, and that, given the ease of transmission, 44 million inhabitants are threatened with it? The 19 percent of Brazil's population not residing within the malaria-incidence region is concentrated in the state of Rio Grande do Sul, in the Federal District, and Fernando de Noronha Island or in areas where the altitude is in excess of 900 meters. Of the 44 million Brazilians threatened with malaria, 32 million reside in regions maintained under medical and epidemiological control, although this neither assures immunization of the inhabitants nor eradication of the disease.

What is more, endemic diseases which are almost under control--such as yellow fever, an average of one case annually--occasionally look as if they might return. The mosquito serving as a vector of yellow fever--Aedes aegypti--was found this year in Rio de Janeiro and Bahia, brought there by foreign ships. Thus there would appear to be some control.

Bubonic plague, for example, dropped from 500 cases in 1975 to fewer than 100 in 1976. What the figures do not say--but even Minister Almeida Machado acknowledges--is that the decline is associated with the poor harvests of 1976. The bubonic plague is transmitted by rats which live on the grain stored away in rural homes; the number of cases dropped in proportion with the reduction in the rat population caused by hunger.

#### Lack of Prevention

There are diseases which strike at fewer people. Yet the total is always alarming. More than 5 percent of Brazil's people (insofar as can be accurately estimated) has trachoma, caused likewise by poor sanitary conditions, and the lack of public health education. Trachoma can, of course, lead to blindness. We do not know exactly how many persons are affected each year. In some states, such as Amazonas, Para, Ceara, Pernambuco, Parana and Sergipe, 30 percent of the population has trachoma.

Some 100,000 new cases of cancer are reported annually. Moreover, treatment of a number of these patients, under official programs, represents a vast burden for the public coffers. Recently, the minister of health raised a substantial loan abroad for the purchase of sophisticated radiotherapy equipment.

The chronic low standards of public health serve to stoke the fires of further disease. Some areas of Brazil have the highest areas of infant mortality on the continent. In the city of Recife, for example, the rate is 258 deaths prior to 1 year of age for each 1,000 live births. The average mortality rate for the country is 105 deaths per 1,000 live births. What is more, death caused by easily preventable transmissible diseases is still quite common, while death in childbirth is 11 times higher in Brazil than in Canada and 3 times higher than in Venezuela.

Therefore, the solution for public health problems is linked to the improvement of the Brazilian's socioeconomic level and the development of official preventive programs. Some specialists recommend, in Brazil's case, the introduction of low cost annual medical examinations, with minimal laboratory resources, for all those under social welfare.

This procedure would be sufficient for the preparation of early diagnosis of diabetes, cardiological problems, leprosy and tuberculosis. The streamlining of public health activities, currently dispersed in five ministries, might also assist in improving the country's medical picture as a whole.

CHAGAS DISEASE EPIDEMIC IN LUTECIA MUNICIPIO DENIED

Sao Paulo FOLHA DE SAO PAULO in Portuguese 16 Dec 77 p 15

[Text] The Department of Health yesterday issued a formal statement denying the occurrence of an epidemic of Chagas disease in Lutecia. According to the note, "the municipio is under permanent supervision carried out by SUCEN [Superintendency for the Control of Endemic Diseases], which in its inspections, found no indication of infestation."

In 1977 SUCEN visited all the houses in the rural area and found only two specimens of "rhodnius neglectus." That year, investigation also revealed the presence of this species of the barber bug in the urban area of Lutecia. Although this has no epidemiological significance, the houses were disinfected and consequently there is no risk of natural transmission.

MALARIA OUTBREAK IN GOIAS CITY DENIED

Rio de Janeiro O GLOBO in Portuguese 18 Dec 77 p 7

[Text] Goiania--After recognizing the seriousness of the situation in two official notes and announcing the dispatch of two medical teams to Cavalcanti, and even allowing a mobile health unit to be sent there, the State Health Organization yesterday brought to the city Ariovaldo Augusto Laranja, the head of the station, "to put the people's mind at ease."

In a press interview, Ariovaldo Laranja, who is also the only doctor in Cavalcanti, stated that "the situation there is normal, with no malaria outbreak."

There is no panic, he said, in the municipal headquarters--which is more than 500 kilometers from Goiania and 200 from Brasilia--and I make this clear, he said, because the city is more than 800 meters above sea level, where the anopheles--mosquitoes carrying the malaria parasite--cannot survive.

Ariovaldo Laranja went on to say that "there is no unknown disease anywhere in the county. What we have is a type of malaria--the falciparum--with many cases of it, an outbreak, as the SUCAM [Superintendency for Public Health Campaigns] laboratory in Formosa made clear." In the Vale do Rio Preto region, where the cases occurred, malaria is endemic.

The head of the health station declared that in the county headquarters there has been only one death up to the present and that they have official notice of three others in the rural area at the place called Rocinha. He then added that there would be no lack of remedies to combat

the outbreak and that he had asked OSEGO [State Board of Sanitation of Goias] only for a supply of vitamins.

As for information from people coming from Cavalcanti, according to whom, many sick people have been lodged in local residences at the seat of the municipio, the doctor stated:

"The sick are few. It so happens that they go to the city accompanied by relatives, which increases the number of newcomers."

During the 2 years he has been living in Cavalcanti, the OSEGO doctor has never come across a single fatal case of malaria in the county. Last year, he heard of three deaths in the Rio Maranhao region, but they were caused by another disease, enteritis. At present, there are about 100 cases under treatment for malaria.

Effective combating of the disease is possible, he concluded, thanks to the support of the OSEGO technical staff and to SUCAM, through its second district, as also to the Cavalcanti city hall.

Antonio Vidal, former mayor of Cavalcanti, former councilman, former ARENA president, candidate for mayor in the last elections, businessman, proprietor, city notary public and farmer--who more than a week ago brought to Goiania the first news of the malaria outbreak in that county --yesterday again declared that when he left his city, he already knew of 30 deaths and that, between then and now, "many other deaths have occurred."

Antonio Vidal, who today returns to Cavalcanti, said:

"I have lived in that county for 60 years and I have never seen nor heard any mention of such a serious disease in that region."

#### THIRTY-SIX SUSPECTED CASES OF TYPHOID FEVER IN SAO MIGUEL

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 29 Dec 77 p 16

[Text] Yesterday another suspected case of typhoid fever came to the attention of the Health Department. Izilda Benedita da Costa, residing at 41 Americo Sugai Street in Sao Miguel Paulista, was interned in the Emilio Ribas Hospital where there are already 36 persons all suspected of the same disease.

Izilda was visited by two social workers who were distributing permits and chlorine to the residents on Americo Sugai Street. She complained of fever and a severe headache which she had begun to feel early in the week. They immediately notified the Sao Miguel health district and Dr Anisio, who was on duty, decided to remove Izilda.

Among the 36 suspected of typhoid fever who were hospitalized at Emilio Ribas, seven live at 39 Americo Sugai Street. The Health Department ordered all the wells in the houses on that street and environs to be dirt-filled. In Dr Anisio's opinion, Izilda's case "should be the last because all the other residents are under control."

#### TYPHOID FEVER OUTBREAK IN SAO PAULO UNDER CONTROL

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 22 Dec 77 p 23

[Text] No new typhoid fever patients have been registered at the Emilio Ribas Hospital for the last 2 days. In the opinion of the epidemiologist, Jose de Souza Morais, director of the Regional Department of Health of Greater Sao Paulo, this fact can mean that the outbreak of the disease, which occurred 10 days ago in Vila Jacui, in Sao Miguel Paulista, is now under control.

However, as the incubation period of the disease can vary from 2 to 40 days--the average time is 8 days--it is possible that other cases may still crop up, despite every means of control adopted by health authorities.

So far, the Regional Department of Health of Greater Sao Paulo has not succeeded in identifying the cause of the outbreak. But the epidemiologist, Jose de Souza Morais, believes that it was caused by a carrier of the disease, because among the 100 people who live in the four houses hit by the outbreak, there was one person who had had typhoid fever 5 years ago. The epidemiologist explained that by some still unidentified process, 5 percent of the people who have had typhoid fever and recover become carriers of the disease by eliminating salmonella typhi.

In addition to a carrier of the disease, Vila Jacui has a number of other conditions conducive to the spread of typhoid fever. The cess-pools of the houses hit by the disease, in addition to not being septic, are located near the wells. And the water table is only a meter deep, which exposes the water to being polluted by excrement.

Jose de Souza Morais considers the possibility of an outbreak caused by pollution of the water system to be very remote. Although the water has been turned on for 15 days, the residents themselves say that they have been using the water system only for drinking. For bathing and cooking, they still use well water.

"Typhoid fever is transmitted," Jose de Souza Morais explained, "not only by directly drinking the water, but also through foods which have come into contact with water contaminated by salmonella typhi, or even in the bath."

To avoid the spread of the outbreak, the Regional Department of Health has requested the Sao Miguel regional administration to close all wells--where there is running water, the well must be closed--and that it put in septic tanks. In addition, for several days it has been distributing chlorine among the people in the houses hit by the disease and health educators are insisting on the use of running water or chlorinated water.

The first five cases suspected of typhoid fever were sent to the Emilio Ribas Hospital on the 11th. As is customary, the Regional Department of Health of Greater Sao Paulo immediately looked into the matter and notified the Sao Miguel Sanitary District to take the necessary precautions. Meanwhile, because five more cases were reported on the 15th, Jose de Souza Morais sent technicians to oversee the work.

Yesterday, in Vila Jacui, 34 people suspected of typhoid fever were in the Emilio Ribas Hospital. However, the laboratory tests have confirmed only three cases. All the others are under observation.

The epidemiologist, Jose de Souza Morais, explained that typhoid fever is endemic in Sao Paulo. Every year there are around 40 cases in the capital, but deaths are rare. This year, up to September, there were 23 cases and one death recorded.

The last outbreak of typhoid fever in Sao Paulo--until the introduction of chloramphenicol in the patients' treatment, it rose to the point of becoming lethal--was recorded in Parque Eduardo Chaves in 1972. The bursting of a water main which, while under repair, became contaminated with excrement containing salmonella typhi, was the cause of the problem. The Panamerican Health Organization considered this one of the worst epidemics in the history of Sao Paulo. To control the outbreak--in which 250 cases were recorded but none was fatal--the Health Department--in addition to distributing large quantities of chlorine--vaccinated more than 300,000 people. Suspected cases--in 1 day 114 cases were reported--were sent to the Emilio Ribas, Mandaqui and Ademar de Barros hospitals, while Jacana Hospital received the convalescents.

Typhoid fever, or enteric fever, is a general infection caused by salmonella typhi, which was diagnosed in Sao Paulo by Adolfo Lutz. Before its diagnosis, doctors called it "paulist fever." Its characteristic symptom is fever, which gradually increases, and diarrhea and rose-colored spots on the body. In some cases, the patient becomes delirious. Rather frequently, it causes an abnormal enlargement of the liver and can give rise to other infections.

## FUNDS ALLOCATED FOR VACCINES, TREATMENT OF LEPROSY

Rio de Janeiro O GLOBO in Portuguese 22 Dec 77 p 9

[Text] Ministers Nascimento e Silva and Almeida Machado yesterday signed an agreement in the amount of 85.6 million cruzeiros to purchase more than 90 million doses of 13 types of vaccines and three remedies intended for the treatment of leprosy. The agreement will be effective until 31 December 1978.

According to the contract, the Ministry of Health will assign 27.5 million cruzeiros to the Central Enterprise for Medicines [CEME] for the purchase of preventive remedies for Hansen's disease in order to assure the development of national programs next year for the control of and immunization against Hansen's disease.

CEME will contribute 58.6 million cruzeiros, and to take care of calamity cases, will maintain an emergency supply of 7.2 million doses of vaccine against cholera, yellow fever, typhoid and meningococcal meningitis, purchased from the Oswald Cruz Foundation.

Through another agreement, signed by the two ministers, INAMPS (National Institute of Medical Emergency Assistance) will finance the installation of centers and health stations in the northeast, to go into effect in 1978 when the Program for Inland Health and Sanitation Activities (PIASS) has been launched.

In order to improve health conditions in the northeast, PIASS will spend a total of 4 billion cruzeiros. The agreement, signed between Nascimento e Silva and Almeida Machado, did not determine the amount of funds that will be allocated for the construction of services in the northeast.

The health stations and centers, established in accord with the agreement, will offer free services and will be installed in municipios with up to 20,000 inhabitants, who totally lack medical assistance.

## POSSIBILITY OF HEPATITIS OUTBREAK IN ANGRA DOS REIS ADMITTED

Rio de Janeiro O GLOBO in Portuguese 8 Dec 77 p 19

[Excerpt] The head of the Angra dos Reis health station, Dr Antonio de Padua, has admitted the possibility of a hepatitis outbreak in the Monsuaba suburb, Third District. He withheld details, but affirmed that they are taking the necessary precautions to supervise the area, including a survey of the victims of the disease who are under treatment in Angra and in Rio.

The announcement came from Erbert Geraldo Braga Franca, the doctor responsible for the treatment of three children infected with hepatitis. According to him, the probable causes of the spread of the disease are to be found in the "unsatisfactory outlets for body wastes and sewers."

The incidence is possibly caused by Monsuaba's very low level which contributes to the spreading out of the drains and calls for an official health inspection.

A retired fisherman avowed that there were several cases of hepatitis in the neighborhood and added that the center of the disease is in the drains piled up behind the house where there is a canteen that supplies meals for the Petrobras workers. The canteen consists of a tiled zinc shed which covers an 8-burner stove and a sink that discharges water on the ground and forms puddles that give off an offensive odor. Near the stove is a heap of trash and a pig in a sty which completes the picture of the canteen which also exposes to flies sun-dried meat spread out on a barbedwire frame.

#### HEPATITIS OUTBREAK THREATENS POPULATION OF SAO GONCALO

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 29 Dec 77 p 16

[Text] Since DIP [Infectious and Parasitic Diseases], a unit of the prefecture, confirmed the existence of eight cases of hepatitis and studied 32 more in Sao Goncalo, a town in the State of Rio, the population of 800 inhabitants has been threatened by an outbreak of the disease, which this year has attacked 202 people.

According to the members of the medical commission, chaired by the municipal secretary of health, Clovis Abraham Cavalcanti, the problem has been spreading for years because the sanitary conditions and town sewerage system are "the most unsatisfactory possible, to the extent that throughout the town's 228 square kilometers, there is not one single meter of a sewerage system."

The commission appointed by the mayor, Jayme Campos, has already visited several housing complexes built by Cohab [Low-Cost Housing Company] and discovered that they have no substructure. This has alarmed the municipal authorities who, yesterday, announced that projects for the construction of housing complexes would not be approved unless the plans provide for basic sanitary installations. These services--MDB [Brazilian Democratic Movement] politicians explained--were not provided after 12 years of administration by ARENA mayors.

The most alarming situation is that of the Coroados complex, hurriedly built 7 years ago, according to the local administrator, Luis Fernando Bahia. "The former Cohab had to deliver the apartments before scheduled

time, in order to provide lodging for people drenched by the rains that deluged the town in 1969 during a public catastrophe. Nevertheless, Bahia says that the sewerage system will be installed, but his present concern is the construction of a recreational area with funds estimated at 2.5 million cruzeiros from the Leo XIII Fund.

The tenants in the complex are not now as optimistic as the manager of one of the 37 blocks--there are 1,350 apartments on the site and a population of around 4,000 people. Evanildo Carvalho says that these works can be done later. "What is now essential," he explained, "is solving the sanitation problem in the complex, the construction of a sewerage system."

At present, the people are living in a mud hole, because the poorly constructed drains have broken down and water mixed with debris has been strewn around, causing a bad odor and sources of disease. The same situation exists in the Jardim Catarina complex and several others. "In addition to the infected waters that have been mixed with the drinking water in our water tanks," Evanildo, the manager, explained, "the greatest problem is that children, the largest part of the complex population, are accustomed to playing in these mud holes and are thus exposed to disease."

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 30 Dec 77 p 11

[Text] Yesterday the General Department of Epidemiology and Disease Control sent the minister of health of the State of Rio, Woodrow Pimentel Pantoja, a report in which it makes the control of the hepatitis cases occurring in Sao Goncalo contingent on the installation of a basic sewerage substructure. Only this year, 202 persons were affected with the disease and 40 more are suspected of being contaminated, among whom 7 are now known cases.

According to the report signed by Maria Augusta Torres Machado, director of Epidemiological Control, already requested to make the necessary improvements are Cedae [sic] [Guanabara State Water Company], Feema [State Environmental Engineering Foundation] and Cebap [sic] [Low-Cost Housing Company], which are responsible for basic services and in particular for the housing complexes where the worst living conditions exist.

Doctors from the Department of Epidemiological Control visited the Coroados housing complex in Sao Goncalo, where the head of the city Health Center recorded eight cases of hepatitis.

It was recorded in the report that each of the 78 Coroados housing blocks, which have a population of approximately 8,000 people, has a tank whose waste matter runs into the rain drain pipes, which are in

a very poor state of conservation, clogged up and broken in several sections.

#### STATISTICS ON ENCEPHALITIS IN VALE DO RIBEIRA

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 29 Dec 77 p 16

[Text] This year encephalitis has caused 11 deaths among the 100 persons affected. This rate is considerably less than that found in 1976 when the disease caused 43 deaths out of 389 cases. Authorities are nevertheless concerned because the cases tend to increase during the summer months.

The town most affected in 1977 was Iguape with 45 confirmed cases of the disease. Jacupiranga had 15 cases, Cananeia, 8 (2 this month); Registro, Miracatu and Pariguere-Acu, 7 each, Juquia, 5; Eldorado, 3. In Barra do Turvo, which was practically immune in 1976, two cases have occurred and a patient from another region was hospitalized in Vale after having contracted the disease when passing through.

This year's 100 cases have not reached the point of constituting a serious problem, according to the doctors, who consider the disease only endemic. However, an outbreak could acquire epidemic characteristics, in which case, the Health Department will have to take measures to provide mass vaccination in the areas most affected.

#### INFLUENZA EPIDEMIC REPORTED AMONG ZOROS INDIANS IN RONDONIA

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 30 Dec 77 p 11

[Text] Porto Velho--Dr Jose Americo, head of the Funai 8th regional office, is seriously disturbed by the appearance of several cases of influenza among the Zoros Indians in Rondonia, recently reported by Apoena Meirelles, an inland resident.

In the doctor's opinion, the influenza was probably transmitted by Japanese settlers who are coming into the area through northern Mato Grosso, or else by servants on the Castanhais farm, where the Indians live. There are about 450 [Indians] scattered throughout several settlements which are hard to reach because of the swampland now inundated by heavy rains.

The doctor plans to vaccinate the 80 or so Indians who now have influenza before the others are infected. To do this, he is trying to get a helicopter because the distances between the villages are extensive and it would take the rescue squad too long to move from one village to the other. In order to ward off an epidemic, Jose Americo intends to

vaccinate the settlers also. Without the helicopter, the doctor believes an epidemic to be inevitable, for vaccination will then be out of the question.

#### BURUNDI

#### OFFICIAL CONCERN OVER POSSIBLE CHOLERA THREAT

Bujumbura ABP BULLETIN QUOTIDIEN in French 8 Dec 77 pp 6n-8n

[Excerpt] Bujumbura, 8 Dec (ABP)--For the first time in the history of our people, Burundi may be threatened by cholera, which has already killed some 40 people in South Tanzania, our neighbor. The proper Burundian authorities have been alerted both by the international press and by official documents. The situation is not so alarming in our country, but it deserves serious attention, especially considering how the disease spreads and the rural sanitary arrangements, which leave much to be desired, in our African countries.

Addressing the ABP Burundian Press Agency which had contacted him concerning the epidemic, Dr Paul Mpitabakana, director of the Department of Epidemiology and Laboratories, stated that he had first learned of it at the beginning of November, through the international press. However, lacking official Tanzanian reports, the Burundian authorities could not name the disease as such. They had to make do with certain practical measures--require a valid cholera vaccination card of every traveler leaving or entering Tanzania, by boat or plane. Dr Mpitabakana explained that the certificate is valid when the bearer waits until 6 days after the vaccination, just long enough to be sure that he has not been contaminated.

Official reports reached the minister of public health on 18 November through the WHO, which announced that it was indeed a matter of cholera. Other official confirmations reached the minister Tuesday by way of a letter from the embassy of Burundi in Dar es Salaam, which stated that a cholera epidemic was ravaging Tanzania. Dr Mpitabakana wrote a letter himself to the Tanzanian authorities to inquire about the situation, but he still has received no answer.

Faced with such a situation, preventive measures are essential. Dr Mpitabakana detailed them in an interview with a reporter from the ABP.

CUBA

DENGUE FEVER EPIDEMIC CONTROL MEASURES CONTINUED

Havana GRANMA in Spanish 15 Nov 77 p 3

[Text] Committees for the Defense of the Revolution [CDR's] throughout the country are continuing actively to conduct hygienic measures against the outbreak of "dengue," which involves distribution of "abate," a disinfectant product put into water containers to prevent the spread of the Aedes aegypti, the mosquito which transmits the disease.

Two small tablespoonfuls of "abate," a powder, are poured into a cloth bag which is placed in tanks to perform its preventive function.

The product is distributed by area Public Health offices to the regions and by the latter to the CDR's which give it out to residents, according to the number of water containers in each house.

DOMINICAN REPUBLIC

DETAILS OF 1977 COMMUNICABLE DISEASE VACCINATION PROGRAM

Santo Domingo LISTIN DIARIO in Spanish 10 Jan 78 p 4

[Text] Nearly 600,000 doses of vaccines to combat various communicable diseases which are preventable through vaccination were distributed in 1977 by the Secretariat of Public Health, as part of the rural medicine community program.

Program director Dr Elias Dinzey said that the vaccines were administered to children under 5 years of age and to pregnant women.

The administered vaccinations are broken down as follows: 176,979 doses of DPT, 194,097 of tetanus toxoid, 156,971 antipolio vaccinations and 67,013 for measles.

The Basic Rural Health Services program has to date covered provinces in the southern region and part of Cibao, where field personnel are now being trained.

Dr Dinzey described the figure attained as an achievement and said that it is a triumph for the health program of the central government which offered protection to the isolated towns of the country where there are no clinics and which are very difficult to reach with medical services.

He emphasized that the Basic Services program attempts to provide preventive medical services to those isolated areas pursuant to the new concept of medicine; i.e., prevention instead of cure.

He said that the vaccinations were administered after a census had been taken by nurses of the Basic Health Service program in its areas of competence.

Dinzey stated that 1,346 health nurses were trained last year, as well as 129 nurses aides, who made information visits to more than 100,000 Dominican homes located in widely dispersed rural areas of the country. This population group receives the fewest number of public services.

The preventive medicine program gives greatest priority to women who are pregnant or in the postpartum period, as well as to children under 5 years of age. He said that in addition to vaccinations these groups are given medicines such as simple antidiarrheics, cough medicines without codeine, aspirin for children and adults, antiparasitic drugs and ferrous sulfate to pregnant women for the prevention of anemia in the third trimester.

The Basic Health Services director stated that on the basis of an evaluation made of the services offered to communities in which the program has been applied it was shown that the infant morbidity and mortality rate has decreased, as well as diseases caused by viruses.

He said that the preventive medicine services are being fortified by the actions of the Nutritional Coordination Office, which is carrying out educational programs to change nutritional habits and hygienic practices harmful to health.

He stated that the health nurses have been trained in nutrition and hygiene, which complements their basic training so that they can take medical information house-to-house to the country's rural population.

Another important aspect, according to the director of Basic Health Services, is the mass education campaign being conducted by the Nutritional Coordination Office, which is under the direction of Dr Luis Emilio Montalvo Arzeno.

This program includes a series of handouts, the content of which provides information to mothers on breast-feeding, methods of preparing food for children, hygiene and mother-child care, the need for boiling water, etc. This program is succeeding in changing the habits of individuals and providing new ideas about specific foods and their nutritional worth.

Finally, the health official indicated that he considers the successful Basic Health Services program a triumph for the rural population which up to now had been resigned to see its members die without health services within their reach nor disease-prevention information.

GASTROENTERITIS OUTBREAK: TWO DIE, MANY HOSPITALIZED

Santo Domingo LISTIN DIARIO in Spanish 23 Dec 77 p 8-A

[Article by Domingo St Hilaire, Jr]

[Excerpts] Santiago--An outbreak of gastroenteritis has been afflicting the infant population of the Buenos Aires section for several days.

According to reports, the disease has caused the death of at least two children, aged 3 months and 4 months, respectively.

It was also reported that numerous children have had to be confined in the Dr Arturo Grullon Hospital as a result of the gastroenteritis outbreak.

In view of the situation, the residents of Buenos Aires demanded the urgent intervention of public health authorities.

DATA ON LEPROSY CASES

Santo Domingo LISTIN DIARIO in Spanish 26 Dec 77 p 16

[Article by Domingo St Hilaire, Jr]

[Text] Santiago--Some 64 cases of leprosy were registered this year in various locations of the area of Cibao.

The information was furnished by Dr Jose Canaan, director of the Dermatology Unit of Cibao. The doctor pointed out that those cases do not constitute a danger signal, but they are a cause for concern because at least four cases of the dangerous disease were detected every month.

The leprosy cases were detected by employees of the Dermatology Unit of Cibao, who visited the various locations.

Dr Canaan indicated that all the known leprosy cases are under the supervision of the Anti-Leprosy Foundation. The cases were detected in Moca, Salcedo, San Francisco de Macoris, Esperanza, Montecristi, Navarrete and Santiago. With these new cases, it was reported, the number of patients under the supervision of the Dermatology Unit of Cibao totals 434.

Dr Canaan explained that once a case of leprosy is uncovered, the employees of the Dermatology Unit of Cibao take care not only of the patient, but also of his relatives and close acquaintances to try to protect them.

Dr Canaan pointed out that despite the limited resources of the institution, there is a marked interest in expanding its range of action for the purpose of providing better service to the collectivity.

TETANUS, DIPHTHERIA, TYPHOID, POLIO VACCINES ADMINISTERED

Santo Domingo LISTIN DIARIO in Spanish 28 Dec 77 p 28

[Article by D. Saint Hilaire, Jr]

[Text] Santiago--Some 43,000 doses of vaccines against endemic diseases were administered by the Second Public Health Regional Office in this province, Dr Ricardo Mauricio, the director, reported. He said that the immunizations were effected here during the months of May to November of this year.

Dr Mauricio averred that the vaccines were administered to both the infant and the adult population. He pointed out that that campaign is maintained throughout the year to prevent diseases such as tetanus, diphtheria, typhoid fever and poliomyelitis, among others.

Dr Ricardo Mauricio described this campaign as "successful."

BIRTH RATE FALLS, DEATH RATE STEADY

Santo Domingo LISTIN DIARIO in Spanish 27 Dec 77 p 14

[Text] The Nuestra Senora de La Altagracia Maternity Hospital, the largest public gyneco-obstetric center in the country, will end this year with a shortage in relation to the births that took place there.

The maternity hospital registered 21,113 childbirths last year, but even if 240 babies were born in the final 4 days of this year, the figure would be only 20,400 births. It is estimated that the average number of births at the Nuestra Senora de La Altagracia Maternity Hospital is 60 a day.

The director of the medical center, Dr Vinicio Calventi, reported yesterday that the average rate of maternal mortality is 16-17 percent, a figure which is acceptable for an underdeveloped country but high for a developed one.

The delay and the inadequacy of data prevented the gathering of figures about the births registered in other public maternity hospitals and private medical institutions in 1977.

## EAST GERMANY

### DATA SUPPLIED ON INFECTIOUS DISEASES

East Berlin PRESSE-INFORMATIONEN in German No 146, 9 Dec 77 pp 5-6

[*"Facts and Figures"* report by press office of chairman, GDR Council of Ministers: *"Successful Control of Infectious Diseases"*]

[Text] Significant results have been obtained in the German Democratic Republic in the battle against infectious diseases. The last case of infantile paralysis in the GDR was in 1962. No child has come down with diphtheria since 1974, and no case of tetanus has occurred in children for more than 10 years. In comparison with 34,449 cases of whooping cough in 1963 before introduction of obligatory prophylactic vaccination, only 168 cases were recorded in 1976. With these results the GDR internationally stands among those at the top.

Thirty million marks are being expended annually for highly developed vaccines for the immunoprophylaxis of all children and young people. More than 13 million marks are spent each year alone for preventive vaccinations. Vaccinations of children are carried out on the basis of a vaccination schedule. Even infants receive the scheduled necessary preventive vaccinations in the maternal advisory centers, as well as doses of Dekristol (vitamin D) in order to prevent rickets.

The greatest attention is devoted to protecting the youngest age groups within the scope of providing for the coming generation. The required measures are principally taken in three directions: prophylaxis through preventive vaccinations and other preventive measures, improving public health conditions and broadening the possibilities for diagnosis and treatment.

Prophylactic vaccination has taken a significant upswing in the last 20 years. The effectiveness and tolerability of the vaccines against tuberculosis, smallpox, diphtheria, tetanus and whooping cough have continuously been improved and highly effective vaccines developed against the dreaded infantile paralysis and against measles and other viral diseases. Other diseases, such as typhus, paratyphus and colic-enteritis, less amenable to prophylactic vaccination, have been driven back by advances in the field of public hygiene.

A convincing example for the cooperation of the three factors is the victory won in the GDR over tuberculosis. BCG vaccination, chemotherapy with streptomycin and other drugs, and public-health measures effectively complemented one another. At present, fewer than 50 children come down with tuberculosis each year in the GDR, and no child any longer dies from it.

In coming years research will be increasingly directed toward combating the diseases of childhood. Toward the end of the period of the last five-year plan the Research Association for Immunology and Protection Against Infection began successfully to coordinate scientific efforts in the field of infection prophylaxis. This led to concentration on the problems of greatest practical significance in the prevention and therapy of infection. Today it is possible, by vaccination, to engender an effective and, to some extent, very long-lasting protection against a number of serious illnesses.

Workers at the GDR Institute for Applied Virology are providing the material prerequisites for the yearly prophylactic vaccinations against influenza. This year alone, more than 100 ampules of so-called virus material were delivered to the National Saxon Serum Works in Dresden in freeze-dried or deep-frozen form for production of the vaccine.

Long-term cooperative agreements for the development and production of polyvalent influenza vaccines insure a close cooperation between the Leningrad Institute for Serums and Vaccines and the National Saxon Serum Works, Dresden. The goal is to be able to manufacture qualitatively polyvalent vaccine for some 30 percent of the population within a short production period of 4 to 5 months--which is necessary in order to react rapidly to current alterations in the causative agent.

A close cooperation exists among the socialist states in research, development and production in the field of vaccine technology for repressing infectious diseases. At the close of 1976, experts of the socialist countries have advised common measures for the consequent continuation of the prophylactic vaccination against diphtheria, whooping cough, tetanus, tuberculosis, infantile paralysis and measles.

The cooperation of the GDR with the Soviet Union in protecting against infection has a tradition of many years' standing. As long ago as 1958-1959, when virology in the GDR was still in its early stages, a successful cooperation began between the GDR Institute for Applied Virology and the Institute for Poliomyelitis and Viral Encephalitis in Moscow. Its purpose was the control of infantile paralysis in the GDR. The USSR made available an oral vaccine which was widely employed. Today, the victory over infantile paralysis which was won with the aid of the Soviet Union appears to many to be something to be taken for granted. And yet, according to WHO statistics for 1975, there were 24,000 reported cases of infantile paralysis in the nonsocialist countries.

There are a series of agreements with the "Ivanovski" Institute for Virology in Moscow and the All-Union Research Institute for Influenza in Leningrad for the successful control of viral influenza. The Soviet Union has decades of experience in influenza research and control. The current scientific cooperation is concerned mainly with the biology of the influenza virus and with the fundamentals for developing effective

vaccines. The cooperation has been successful in developing a vaccine against mumps.

After many years of work in research and development, GDR and USSR scientists have now arrived at a new decisive stage in the prophylactic control of rabies. The first rabies cell culture vaccine to be highly effective on a worldwide scale has been made available for clinical use.

With an expanded vaccination program, the World Health Organization, WHO, is pursuing the goal of guaranteeing the possibility of prophylactic vaccinations for all the children of the world. The GDR is participating in this work. Of 80 million children born each year, 5 million die of the 6 diseases diphtheria, whooping cough, infantile paralysis, measles, tetanus and infantile tuberculosis. At least 10 million remain physically handicapped.

#### NUMBER OF PHYSICIANS, DENTISTS TO INCREASE

East Berlin BERLINER ZEITUNG in German 26 Jan 78 p 1

[Text] At the present time, the citizens of the GDR are provided with medical care by 33,000 physicians and 7,500 dentists. By 1980, 6,300 medical students will have completed their education. On 31 January and 1 February 1978, 200 experts will confer with Prof Dr Ludwig Mecklinger, GDR minister for health, on the continued increase in the quality and efficiency of medical work in the GDR with the aid of postgraduate medical education.

#### ECUADOR

#### COMMUNICABLE DISEASES CAUSE HIGH INFANT MORTALITY

Quito EL COMERCIO in Spanish 30 Nov 77 p 16

[Text] Communicable diseases which can be prevented cause high infant mortality. Measles, whooping cough, tuberculosis create the greatest havoc in the country. As stated in the report on the expanded immunization program of the Ministry of Health, communicable diseases in Ecuador, most receptive to preventive immunization, constitute one of the principal causes of disease mortality in groups of children under 5 years of age.

In the past 5 years the national mortality rate for measles fluctuated between 40.1 and 50.4 for every 100,000 inhabitants. Whooping cough between 29.6 and 23.2 per 10,000 inhabitants. Tetanus between 19.7 and 12.4 per 100,000 inhabitants. Tuberculosis between 18.7 and 19.2 per 100,000 inhabitants.

The sick rate for the same 5 years for poliomyelitis fluctuated between 0.2 and 2.8 per 100,000 inhabitants and for diphtheria between 1.6 and 2.3 per 100,000 inhabitants.

Causes--It is pertinent to point out that the conditional factors involved in this situation are the problems inherent in the infrastructure and complementary services, to which must be added the limited education of the community, the multiple doses necessary for DPT and poliomyelitis, the insufficient quantities of biological products, the insignificant publicity and promotion of the vaccination programs, the lack of vehicles required for mobilization of personnel, the absence of refrigerating equipment, the inadequate storage for biological products, and the shortage of periodic supervision on the local level and coordination between the various health programs.

Diseases--The main diseases which can be controlled through a system of vaccination are measles, poliomyelitis, whooping cough, diphtheria, tetanus and tuberculosis.

These diseases can be prevented through the use of vaccines, but because of their moderate coverage in national programs, their influence on morbus mortality is temporary as storage in the areas programmed in the country (provinces) is very deficient.

Justification--It is a known fact that in the past few years the country has conducted massive vaccination campaigns on effective, although not constant, levels, while the operating units did not attain acceptable vaccination coverage which created an increase in susceptibility and in turn a new massive campaign.

This situation is repeated year after year which makes it of great importance to establish a new program which, by separating itself from traditional programs, would progressively expand vaccination coverage by means of regular operations by local health organizations.

The national experience has demonstrated that from an economic and administrative point of view it is very difficult to follow a program of vaccination by age groups in the rural zones because of the impossibility of placing each child in the corresponding age group eligible to receive the vaccine. It is for this reason that an expanded simultaneous immunization cycle has been proposed in order that everyone less than 1 year old would receive the four vaccines, in the course of three visits, against the six diseases mentioned above, which are of major incidence in infancy.

The vaccination programs have as a goal the reduction of mortality because of measles and whooping cough to rates not to exceed 5 for each 10,000 inhabitants, for tetanus not to exceed 1 for each 10,000 inhabitants and a decrease of 50 percent in mortality because of tuberculosis.

Furthermore, it is proposed to reduce the sick rate because of diphtheria and poliomyelitis to rates not to exceed 2 or 0.1 per 100,000 inhabitants.

Limits--Time limits: The program will be executed in two steps, a 1-year step directed to recover the protection levels of the previous years, and the second step directed to permanent vaccination of children born in that year and to scholastic groups who will receive booster shots.

Area limits: These activities must take place in the entire national territory, taking into consideration that because the program being presented is new to the Ecuadorean population, it is recommended that the initial activities be introduced in a demonstration area established in the provinces, one, Manabi, on the coast, and the other, Imbabura, in the Sierra, involving by degrees the rest of the provinces until the whole country is totally covered.

The population to be vaccinated in Ecuador during the first and second steps of the expanded BCG, DPT, poliomyelitis and measles immunization will total 1,102,382 for the 4 months up to 5 years group, and a total of 187,000 infants, 4 months to less than 1 year old group.

#### EGYPT

#### EFFORTS TO CONTROL BILHARZIASIS IN COUNTRY NOTED

Cairo OCTOBER in Arabic 4 Dec 77 pp 46-47

[Article by Muhammad Khalafallah]

[Excerpts] Even though the common belief is that bilharziasis is an Egyptian disease, medical research has proven in figures that this disease is also present in most of the Arab countries--Saudi Arabia, Yemen, Libya and Tunisia.

We can imagine what this dangerous disease is doing to the health of the Egyptian and Arab man who is living in rural areas or in agricultural areas in the desert and who is constantly exposed to infection by bilharziasis which is lying in wait in the Nile waters or in underground water. We can imagine what this serious disease does when we know that 'Abd-al-Halim Hafiz, that well-known Egyptian [singer], lived with this accursed disease which ultimately killed him.

'Abd-al-Halim Hafiz lived his life suffering, like millions of others, from bilharziasis. Bilharziasis killed him as it has killed millions of others in Egypt and in the Arab world but with a slight difference, namely that the others, including the Egyptians, died in silence like

the silence of protest after submitting to their fate. They were treated with the most primitive means and given the famous antibilharziasis injections--the tartar injection that causes vomiting--and never went beyond the health centers in the collective units or beyond the primitive hospitals in the provincial centers. Rarely did any of them go to Cairo hospitals and the result was always the same and in favor of bilharziasis which ultimately triumphs and sticks its tongue out at whoever is afflicted by it, even if he is 'Abd-al-Halim Hafiz.

The bilharzia worm is a serious worm and whoever gets infected by it is, despite treatment, lost for good because this worm causes both types of intestinal and blood bilharziasis. Both types are very, very dangerous because they damage the liver, inflate the spleens and cause bloating of the stomach. All these are serious symptoms from which 'Abd-al-Halim Hafiz suffered throughout his life. The last bleeding spell caused his death despite the long journey of treatment that Hafiz underwent in the most advanced hospitals of the world at the hands of the best-known Egyptian and foreign specialists who supervised his treatment moment by moment since they learned the serious effects of the disease on his life in 1956 and until his death a few months ago, i.e. for a period of 21 years.

Internationally, bilharziasis has been linked to Egypt. Even some Egyptians believe that this disease is an Egyptian disease. However, scientific and medical facts say that Egypt is the first country in the world to discover the disease and to treat it.

Bilharz discovered the urinary worm and then (Leber) discovered the intestinal worm. Egypt then started to pay attention to treatment of bilharziasis and to control of the worm through control of the snails in which the disease lives. Egypt was the first country in the world to implement in the 1930's a definite program to eradicate these snails through the use of copper vitriol in the al-Dakhilah oases in the heart of the desert. This area is still free of bilharziasis. It is noticed that al-Dakhilah oases are very far from the Nile River bed.

The fact that bilharziasis is linked with Egypt's name has made Egypt an international center for the control and treatment of the disease, even though there is the Japanese bilharziasis which is also found in China and other parts of Asia. Egypt was the first country in the world to treat bilharziasis through the use of the vomit-causing copper vitriol at a wide level. The entire world has acknowledged the scientific, medical and curative studies conducted in Egypt, according to Dr al-Mu'tazz Billah Mubarak, undersecretary of the Ministry of Health for endemic diseases. The world has never recognized any snail killer or pesticide before passing the scientific tests conducted in Egypt.

The types of bilharziasis found in Egypt have now been determined. There is one type of bilharziasis in Upper Egypt and an absolute cure

has been found for it. This cure is administered by mouth. In the delta, there are two kinds of bilharziasis and it is expected that experiments will be completed next year on a drug given by mouth and capable of curing both types. Several comprehensive tests were conducted through [drug] samples distributed to all the Egyptian villages. The latest test was conducted in 1975, i.e. 2 years ago, and the [drug] samples were distributed to the villages of 17 governorates in preparation for the comprehensive control and village reconstruction projects. The research was supervised by Dr Baha'-al-Din Hashim and the results have proven that the rate of infection reached 24.3 percent. This research has provided indicators but no figures. The indicators are that the transfer from basin irrigation to permanent irrigation after the construction of the High Dam has resulted in an increase in the rates of bilharziasis infection in these areas.

A significant issue is now being brought up, namely the issue of bilharziasis cure through immunization which will provide lifelong protection against the disease, as in the case of other diseases for which immunization is given. Experiments have actually begun in Germany and the results have been encouraging and have been confirmed by other experiments in Britain, France and the United States, all of which have been conducted in participation with Egypt. Experiments are still in progress to deal with bilharziasis through immunization or vaccination, thus making it possible to protect man against this disease throughout life.

Dr (Soulsby), professor of endemic diseases at the University of Edinburgh, in England [sic], and the University of Pennsylvania in the United States, has conducted research to find a vaccine against bilharziasis through extracting some substances from the body of the bilharziasis larvae or worms, through concentrating and purifying these substances and through developing them into vaccines which provide immunity against infection with bilharziasis. The research is based on the concept that the introduction of such a substance into the body of a healthy person, often a child, can develop immunity against a disease that invades the body, considering that the substance consists of antibodies which defend themselves and thus give the human body the needed immunity and protect it from bilharziasis. Bilharziasis can consequently be eliminated and one of the major dreams of mankind in fighting diseases can be realized.

But until this dream comes true, the sole cure for bilharziasis will continue to be the famous bilharziasis injections--the vomit-causing copper vitriol. Bilharziasis pills have now begun to replace the injections, according to Dr Mustafa Mansur, the director general of health affairs in Bani Suwayf Governorate. These pills have no side-effects and are taken three times over a period of 45 days, 15 days between one pill and another, under the supervision of a physician.

The method for bilharziasis control is still the method of comprehensive control of the snails in river beds, canals and drains so as to eradicate these snails and, consequently, to eradicate the bilharziasis worm itself by eliminating one of the links of its life cycle, namely the snails. Treatment through the use of the new pills is proceeding side by side with the efforts for snail eradication.

In al-Fayyum Governorate, an experiment for the comprehensive control of bilharziasis through the eradication of the snails that carry the bilharziasis worm at the entrance of Bahr Yusuf [Yusuf Sea] which carries the Nile water to al-Fayyum and in certain areas on the main and subsidiary [irrigation] canals and in the drainage canals.

According to Dr 'Uthman al-Zamiti, the director of the bilharziasis control project in Central Egypt, the rate of infection with the disease has dropped from 47 percent to about 8 percent. This is a good percentage, should it prevail in all parts of Egypt. The experiment is being now extended according to a well-studied plan that begins with Central Egypt and then proceeds to Upper Egypt and to the western delta area, prior to proceeding to the central and eastern delta areas. We will have thus succeeded in eradicating bilharziasis snails and in eliminating bilharziasis by curing both types of the disease. This is another Egyptian national dream.

#### 'Abd-al-Halim's Will

This is the story of the worm that has cost us millions of patients, thousands of mortalities and millions of pounds and dollars.

What remains now is for every citizen in our country to feel the issue and the responsibility because this disease is ultimately due to completely unsanitary human behavior.

Because 'Abd-al-Halim Hafiz' will has been to build a bilharziasis hospital bearing his name, then it is the duty of everyone to participate in eliminating bilharziasis through education to keep water as clean as God gave it to us and through behaving in a very, very sanitary and civilized manner. Otherwise whoever touches the water contaminated with bilharziasis snails will be lost forever, son.

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GREECE

MEASURES TAKEN TO PREVENT IMPORTS OF DENGUE FEVER

Athens TA NEA in Greek 9 Nov 77 p 1

[Article by G. Kondovas]

[Text] To prevent the possible import of a dengue fever epidemic which has been plaguing Egypt for days now, special measures have been taken at Ellinikon Airport where travelers from that country are subjected to a thorough examination by Health Board doctors before entry is permitted.

The symptoms of the patients suffering from dengue fever are continual and include high fever, headaches, muscle pains and usually bleeding rashes on the hands and feet. The disease is due to a virus and is communicated to humans by a special type of mosquito--Aedes aegypti--which is found mainly in tropical lands.

Preventive Measures

Not since the great 1928 epidemic which cost the lives of thousands of people have any dengue fever cases appeared in Greece. The Social Services Ministry announced yesterday that the measures taken at the airport are preventive and that no danger exists because this type of mosquito does not exist in our country and that, in any case, the ministry has decided to spray with special insecticides areas in the country where mosquitoes breed.

SUDDEN INCREASE NOTED IN TUBERCULOSIS CASES

Athens ELEVTEROS KOSMOS in Greek 30 Nov 77 p 3

[Article by G. Marmaridis]

[Text] Tuberculosis cases in Greece are increasing. This appears to be a fact even though it has not been authenticated statistically, the reason being that it concerns only a recent increase of the erstwhile "horrible disease." In any case almost all hospitals specializing in chest diseases have suddenly shown an increase in the number of their patients--a fact which is creating public anxiety. But is such anxiety justified and to what extent? An investigation we made into this matter gives the most responsible answer to the question.

During a discussion with the director of the 7th Clinic of the Athens Hospital for Chest Diseases--the former Sotiria Hospital--we found out that:

"The impression that the tuberculosis cases are increasing is correct but should also be of limited extent"--the exact increase will be known when the first official statistics are issued.

#### Under Control

"No one who knows the history of tuberculosis during the past 20 years should be disturbed," he continued, "because the disease is under full control not only in the scientifically advanced countries, not only here, but in the underdeveloped countries of Africa as well. A giant and effective step has been taken for the prevention of tuberculosis and it is a fact that the disease has definitely ceased to be communicable as a result of the unquestionably effective treatment through medicines. If it is finally proven that there is indeed an increase in tuberculosis cases then this should be attributed to the immunity of the microbes to the medicines used. But even such a case should not be cause for alarm because we have many effective medicines for this unique enemy. The microbes, too, never cease to have 'offspring' also and no matter how much they resist--even, that is, if a microbe succeeds in surviving the medicine and in multiplying, its 'offspring' will have the same characteristics and will be treated with other medicines.

#### Treatment

"Besides tuberculosis prevention and treatment, the progress achieved does not allow for any particular concern. Today more than 92 percent of the cases appearing in hospitals are cured, a fact which proves the high effectiveness of the drugs. The cure, moreover, is limited to an elementary type of rest--in addition to the medicines used--in contrast to the old days when the patients were subjected to years of immobility. Even then--contrary to what most people believe perhaps--about 40 percent of the patients were treated during the early stages of the disease. Only in novels do we find tuberculosis patients always dying and this has perhaps created the impression in many people that the disease is 'incurable.' In our day even patients with advanced tuberculosis are effectively treated.

#### It Gives No Warning

"Normally, no one should have advanced tuberculosis because the disease is treated radically at its very outset. But it is unfortunately a disease which does not give any 'warning' at all to the patient. The blood-spitting, for instance--when it is due to tuberculosis, in light of the fact that there are also other diseases which cause it--while it may appear at the outset of the disease can also appear when the disease is at a considerably advanced stage. Unfortunately, even today we have persons who wait for only this particular symptom to become aware that they may have tuberculosis and consult a doctor. Thus while this disease advances in their lungs they do not even suspect that they are

tuberculars. But there are many other symptoms which they could detect and could thus start their early treatment because it is very rare, if not impossible, for one to reach an advanced stage of tuberculosis without any previous clinical manifestations.

"A characteristic symptom is the short, persistent cough which, however, most tuberculars attribute to smoking. Other symptoms are the easy fatigue, the loss of weight, weariness, etc.

#### It Has Been Conquered

"It should be pointed out in any event that it is a rare phenomenon for a person to have advanced tuberculosis and not be aware of it. Besides, everyone should know that a small increase in tuberculosis cases does not imply any 'new danger' from this disease which has been definitely conquered by science. On the contrary, such an increase must be attributed simply to the law of probabilities. No one would be afraid of this disease today if this 'terrible' pre-history of tuberculosis did not exist. Finally, we should not compare the old methods of treating tuberculosis with those used today for its effective treatment. The 'sanatoriums' which were supposed to be in the country, in fresh air in a dry climate, etc., now belong to the past. In our day the treatment of the disease can be equally effective in Pendeli as in...Elevis! The value of fresh air has been nullified in the face of the effectiveness of the new drugs which directly affect the tuberculosis microbes."

#### GUYANA

#### DENGUE FEVER OUTBREAK CONFIRMED

Georgetown GUYANA CHRONICLE in English 30 Nov 77 p 10

[Text] The Ministry of Health has received confirmation from the Caribbean Epidemiology Centre [CAREC] in Trinidad that there is a slight out-break of dengue fever in Guyana.

During the past month cases of fever associated with joint and muscle pains have been occurring in this country. The exact number of such cases is not really known as very few are being reported by medical practitioners to the Ministry of Health.

However, examination of specimens of sera has been done by CAREC and six cases have been considered to have had dengue recently. Four other persons are believed to have had dengue in the past.

The patients, according to an official source at the Ministry of Health, will be further interviewed to determine whether all such infections

occurred in Guyana or whether it is possible that the infections could have been picked up from overseas.

Outbreaks of dengue fever were first reported in Jamaica. After which there were reported cases in Cuba, the Bahamas, St. Lucia, Puerto Rico, among other places in the West Indies.

"There is little doubt that dengue fever is occurring in Guyana," the health official stated, and he stressed "the extent of this outbreak can only be determined if the doctors are prepared to notify all suspected cases to the Epidemiologist of the Ministry of Health.

"As far as the public is concerned, there is no cause for alarm as there are usually no severe side-effects, and the disease usually subsides within five to seven days."

The official added that the effects include prolonged fatigue and depression. But he pointed out that the Ministry, together with the Health Departments of Georgetown and New Amsterdam, have already been taking preventive measures.

For the past three months, surveys have been carried out throughout Georgetown and in various parts of the country to determine the density of the Aedes Aegypti mosquito--which transmits the disease.

Reports so far suggest that the density of that mosquito is low, but repeated investigations will be carried out to ensure that the level is kept low and to ensure, too, that treatment of breeding places has been effective.

It should, however, be noted that owing to the lowlying nature of the coastlands of Guyana, mosquitoes tend to breed regularly. Most of these are incapable of spreading dengue fever though.

Therefore, it means that although in some areas there may be many mosquitoes, they are not necessarily the Aedes Aegypti type and will naturally not spread the disease.

Control of the outbreak will depend mainly on the destruction of breeding places and of preventing the breeding of mosquitoes. In addition, attempts will be made to kill as many adult mosquitoes as possible by the use of insecticides.

As far as the control of breeding is concerned, the full co-operation of the public is essential. The mosquitoes breed readily near to houses and could be often found breeding in empty tins, coconut shells, flower-pots and in collections of water near the house.

Old motor-car tyres are also a common breeding place and these should not be left in the open to collect water. There should be, too, the proper disposal or burial of redundant receptacles.

These measures are important to every household, but they also apply to public places such as sports grounds, church-grounds, school-yards and other places which are open to the public where receptacles could be dropped and left to harbour mosquitoes.

Now, if everyone does his or her bit, then this outbreak of dengue fever could more readily be brought under full control.

Above all, it must be remembered that the outbreak could easily spread from district to district if everyone does not co-operate. Everyone has to try and control the breeding of mosquitoes.

#### UNKNOWN DISEASE STRIKES AMERINDIANS

Georgetown MIRROR in English 11 Dec 77 pp 1, 12

[Text] A strange disease has broken out in the Pakaraimas in the hinterland, and is reportedly affecting the Amerindian community. Several of them have died, while many others are suffering terrible pains and nausea. There is no doctor in the area, and medical facilities are practically non-existent. This mystery disease is causing grave unease in the area, and the Minister of Health is being asked to look into the situation forthwith.

A report from an informed source in the Pakaraimas said:

"Subsequent to a period of starvation in this area, there is now a period of severe illness followed by quick death. Two persons aged 27 and 9 have died in Kurukubaru recently, within a short time of their showing signs of the illness.

While one person became ill on the evening of Friday, November 11, and died on the Sunday morning; the other person (the child) became ill on the Sunday morning and died the same evening. The Amerindians in the area are afraid that the illness which has caused the deaths of these two persons will also affect others.

The patients who are stricken with the malady experience vomiting, diarrhoea, and pains in the abdomen.

One month ago, another child had died of similar symptoms in the same village. There are other reports of similar outbreaks in other villages in the Pakaraima region.

There is no doctor in the area and the services of Medical Ranger have not been obtained either.

In one particular case, a message was sent to the army outpost at Orinduik appealing for medical assistance. The messenger returned the same day, and reported that the army medic is waiting for an army plane to bring him to the affected village. It is not known what has happened since the message was delivered, for the medic did not show up."

#### MOSQUITO INVASIONS

Georgetown GUYANA CHRONICLE in English 29 Nov 77 p 8

[Text] Several trainee public health inspectors have been thrown into the field as one of the several steps taken by the City Public Health Department to battle against the current increase of mosquitoes in the city, the Chief Public Health Inspector, Cde. P. I. King, has told the City Council.

Cde. King was at the time replying to several councillors who lamented the invasion of mosquitoes and called on the Public Health Department to take urgent steps to remedy the situation.

Councillor Harold Snagg who raised the matter, said the mosquito situation was "getting from bad to worse," and pointed out that many persons suspect that the mosquitoes could be a source of dengue fever.

Councillor George Lee referred to the Albouystown area where, he said, running taps, dilapidated toilets and silted-up drains were a common feature all forming suitable breeding grounds for mosquitoes. There was need for more consistent efforts to rid the city of such menace, he said.

Veteran City Councillor, Cde. Claude Merriman, agreed that there was an invasion of mosquitoes and pointed out that there was a scare among citizens that "a certain type of disease" was already in the country. He said the authorities concerned should either confirm or deny whether the disease was in fact in Guyana.

#### Breeding Grounds

Cde. Merriman also stressed that while there were several natural breeding grounds for mosquitoes in the city, the responsibility for countering the situation was not restricted to the Public Health Department. It behoved every citizen to take care of his own premises, he said.

Councillors C. D. Persaud, Stanton Critchlow and R. Whyte also contributed to the discussion. Cde. Critchlow hit out at some landlords

who, he said, were being permitted to grow jungles in their yards. He said that some of the Public Health inspectors were apparently not working--perhaps because they have their own problems--and the council should try to find out these problems.

Cde. Critchlow also noted that the drains in several parts of the city--including those on Sussex, Camp, and Wellington streets--were clogged up and urged that if the officers of the council could not handle the situation the council should seek assistance from such bodies as the Guyana Association of Professional Engineers.

Cde. King agreed that there was an upsurge of mosquitoes. He pointed out, however, that apart from throwing all the PHI trainees into the field to inspect lots and assist with eliminating all mosquito breeding places, his department has stepped up its spraying programme in the Lacytown, Campbellville and Kitty areas where the problems are the greatest and has been in touch with the Cleansing Department urging that the clearing of drains be stepped up.

He explained that the mosquitoes found in the city are not known carriers of Yellow Fever, Dengue, and of malaria but are known to be carriers of filaria.

#### Temperature

Cde. King explained that there is always a seasonal variation in the density of mosquitoes which is influenced by factors such as the wind, the rain, and the temperature over which his department had no control. His department always tries to restrict density to a tolerable level.

On the question of bushy yards, he explained that especially in areas such as South Ruimveldt and North Ruimveldt Park, there were several lots with tall bushes. He noted, however, that many of these lots were owned by Guyanese who are living abroad.

The council approved a motion by Cde. Merriman that the discussions on the matter be forwarded to the City Works Committee for urgent consideration.

Georgetown GUYANA CHRONICLE in English 29 Nov 77 p 7

[Text] The New Amsterdam Town Council is going all out to battle the mosquito invasion which has plagued citizens for several days now.

The Council has already purchased three swing fog machines with a view to killing the pests.

Chief Public Health Inspector of the New Amsterdam Town Council Cde Alvin Harry said that all efforts are being made by the Council and

the Public Health Department to grapple with the problem with a view to abate this nuisance as far as is practicable.

The insects are creating havoc forcing people to close their premises before dark.

The mosquitoes are rampant at this time of the year when the high tide comes in and water lodges along the low lying areas, creating places for breeding mosquitoes.

#### HUNGARY

##### INFLUENZA CASES

Budapest MAGYAR HIRLAP in Hungarian 15 Jan 78 p 14

[Excerpt] During the week, influenza cases have been reported here in Szabolcs-Szatmar County, in the town of Demecser, at the Fot Children's City in Pest County and at a students' hostel in Budapest. Most of the cases involve youngsters between the ages of 18-20. Two A 1 influenza viruses have been isolated from the samples submitted. Additional investigations are in process. The Ministry of Health has ordered the usual mandatory reporting of all cases of influenza for the entire country. The ministry has also urged the population to refrain from visiting hospitalized relatives. In those areas in which epidemics develop, the authorities will forbid all hospital visits.

Budapest NEPSZAVA in Hungarian 17 Jan 78 p 8

[Excerpt] Investigations have revealed that A 1 and A 2 strains of virus have been responsible for the cases of influenza reported to date. New cases have been reported from Szolnok and from several parts of Budapest. The disease is reportedly mild, causing muscular pains, somewhat elevated temperature and possible respiratory symptoms.

#### INDIA

##### KALA-AZAR OUTBREAK

Madras THE HINDU in English 19 Dec 77 p 14

[Text] Patna, 18 Dec--Kala-azar has taken a toll of 204 lives in Vaishali district of North Bihar and 6,018 persons are stricken by this dreaded disease, according to official sources.

According to unofficial sources, however, nearly 300 to 350 persons have fallen a prey to this disease and 10,000 persons have been stricken in this sprawling district near the confluence of the Holy Ganga and Narayani Gandak. A survey by this correspondent of several villages where kala-azar has assumed the proportions of an epidemic in Jandaha, Mahua, Deshri, Goraul and Mahnar blocks of this district revealed a pathetic picture. While officials and political leaders are engaged in a fierce controversy over the casualty figures, the health departments of the Union Government and the State Government appear to be doing precious little for proper treatment and cure of the afflicted.

Health sub-centres and Government dispensaries entrusted with the task of locating, diagnosing and curing kala-azar patients have not taken up the challenge of eradicating kala-azar seriously. A majority of the health centres in the district are defunct. A team consisting of doctors and technicians from Chandigarh camping in Goraul block finds itself woefully unequal to the task. It is a team job to perform bone-marrow tests on suspected cases to determine whether or not they are suffering from kala-azar.

Elimination of sandflies which are the carriers of kala-azar germs is the only way to eradicate the disease which can be cured only if it is detected early.

The Health Department of the State Government, primary health sub-centres and doctors of Government dispensaries do not seem alive to the magnitude of the problem.

Health Department officials usually deny kala-azar deaths and attribute the death of patients to other maladies. No drive has been launched so far to rid the countryside of carrier germs nor have steps been initiated for early detection of the disease.

Sandflies hibernate during winter only to surface and become active in summer. This gives the impression that kala-azar is on the wane but this is not correct. Winter is, therefore, the best season to kill and eliminate the carrier germs. But apparently nothing is being done in this regard.

Dr. Pratyush Kumar Bhattacharya, who heads the Chandigarh team at Goraul, complains of lack of co-operation from the State Health Department. Another irritant for him is the frequent power failure as a result of which his pathological tests are hampered greatly. He feels that there should be greater seriousness on the part of the Government and the Health Department in view of the rise in the number of kala-azar cases.

## INDONESIA

### CHOLERA EPIDEMIC

Hong Kong AFP in English 1035 GMT 16 Dec 77 BK

[Text] Jakarta, 16 Dec (AFP)--Twenty-six people died in a cholera epidemic which hit the Banyuwangi District in East Java this week, it was reported today. The reports, quoting officials, said 53 other people were taken to hospital for treatment. The epidemic reportedly hit three sub-districts in the area but apparently has not affected the Banyuwangi Township, which is a major overland gateway for tourists entering Bali from Java. Press reports said officials have taken necessary steps to prevent the epidemic from spreading. In the worst hit areas, officials have closed down shops and eating stalls suspected of having contributed to the spread of the disease through the sale of unsanitary food and beverages. A public health team has been sent to the area from Surabaya to help fight the epidemic, the report said.

Kuala Lumpur International Service in English 0830 GMT 22 Dec 77 BK

[Text] Cholera has taken 146 lives in the eight East Java Subdistricts in Banyuwangi Regency within the last 2 weeks. A regency police spokesman was quoted by Antara News Agency as saying this. On 22 December, the Director General for Prevention of Contagious Diseases in the Department of Health said that 2,100 persons in eight Banyuwangi Subdistricts have been affected by cholera.

## IRAN

### INFLUENZA AND GRIPPE PREVALENT

Teheran ETTELA'AT in Persian 13 Dec 77 p 3

[Text] Because of the rapid drop in temperature in the country, seasonal viruses, particularly influenza, have broken out. One or two persons in each family is suffering from this illness.

Dr Mostafa 'Amidi, an internist in a Teheran clinic, told our reporter that about 50 percent of the patients who have come to the clinic during the past few days have colds or the grippe. Dr 'Amidi advises these patients to rest, drink enough liquids, and follow a simple diet.

Dr Mohammad Sharifpur said that about 70 percent of the patients coming to the clinics for treatment have influenza. He added that if the

patient has a fever which lasts more than 3 days he should definitely see a doctor, because influenza is usually not dangerous by itself but it may lead to more dangerous illnesses such as pneumonia, etc., especially in children and the elderly.

'SCHOOL CLOSURE MAY COMBAT FLU'

Teheran TEHRAN JOURNAL in English 10 Jan 78 p 3

[Excerpts] Teheran--A group of doctors yesterday prescribed that all schools here be closed for one week to combat the current influenza epidemic. The medics said nearly 85 per cent of patients suffering from flu were school children.

Dr. Sohrab Arami, a child specialist and head of the Massoudi Hospital for Children, said the influenza virus causes a swelling in the child's breathing system. "The disease is quite uncomfortable but not dangerous," he added.

Arami said over the past few days about 95 per cent of children treated at the hospital were suffering from influenza.

Carelessness and poor hygiene at home and school were the main reasons for the spread of the disease.

A patient should not be allowed to mix with other people after just one day's rest as the disease normally lasts five days, Arami said. "Patients should not get panic stricken and take unnecessary amounts of medicine."

Dr. Ali Basiri, a child specialist at the Shahre Azad Hospital, said 80 to 85 per cent of his patients were suffering from influenza. "Education authorities would do well to close schools in Tehran for a week to 10 days," he said.

Another child specialist Dr. Yahya Aqili also backed the school closure idea. He said the most obvious symptoms of the disease were headache, body ache, severe cold and pains in the chest.

The Ministry of Education commented yesterday that schools had already been authorized to close if they found flu had spread to epidemic proportions among students.

## VACCINE PRODUCTION INCREASES

Teheran ETTELA'AT in Persian 18 Dec 77 p 4

[Text] Following the beginning of general vaccination of children against children's paralysis, the Razi Institute connected to the Ministry of Agriculture and Rural Development has noticeably increased production of this vaccine. According to statistics of this organization, 3.5 million of the 4.555 million doses of vaccine produced at the Razi Institute during the past month were doses of children's paralysis vaccine. The rest of the vaccines were for measles, tetanus, diphtheria, and whooping cough.

## PLAN TO IMPROVE TEHERAN SANITATION

Teheran ETTELA'AT in Persian 19 Dec 77 p 3

[Text] According to a plan being considered by experts in the Teheran city administration, an incinerator plant is to be built in Teheran. This plant will not only convert refuse into metal ingots and other usable materials, but will also use the heat of combustion to generate electricity.

In describing the studies that the experts are now conducting into ways of collecting trash, an informed official described various ways of utilizing the burned-up waste.

By constructing this incinerator plant, various uses can be made of each element in the refuse. By applying heat, empty conserve tins and oil cans, wire and the like can be rendered into iron or metal ingots, which can then be used by foundries as raw materials.

By burning other combustible materials such as paper, straw and fruit peels, ashes can be produced which are then used in shaping and making building materials.

Referring to the fact that specialists around the world are now trying to find new ways of producing energy, the official said that thermal energy is produced by burning refuse which can be used to provide heat and hot water for large buildings such as hospitals. Some foreign countries, Germany for example, have done this for years.

### Program To Clean Up the Streets

In addition to an incinerator plant, experts for some time have been studying other plans to collect the trash from various parts of the capital and to clean up the streets. Existing methods of cleaning up the environment are not adequate for a city of 4.5 million inhabitants,

which makes a new look in this area necessary. According to informed officials, in order to clean up the city and prevent pollution of Teheran's air, the city is looking into another plan. This plan consists of placing out large, covered trash containers mounted on four wheels, so that even if they are left alongside the streets for long periods, special trash-hauling trucks can move them outside the city where their smell will not be offensive and they will not breed gnats, flies and various diseases.

At present, Teheran's trash is collected by special garbage trucks and carried to two dumps along the old road to Qom and Ab'ali. Some time ago, weighing-scales were set up at each dump, and drivers must deliver 20 tons of trash per round trip. In the opinion of those familiar with the recent system of weighing the trash, it will henceforth prevent drivers from dumping the collected trash in the middle of the road and inside the city limits, returning empty to their destination. Present-day garbage trucks are capable of compressing 53 cubic yards of trash into 11 cubic yards.

A trash-collection program outside the municipal boundaries will soon be put into operation. According to discussions that have been held between the Teheran city government and the Development and Welfare Organization south of the city, trash collection outside the city limits will be the latter organization's responsibility.

#### CHILD MORTALITY RATE 'HIGHEST IN THE WORLD'

Teheran TEHRAN JOURNAL in English 8 Dec 77 p 3

[Text] Kerman--Minister of Health and Social Welfare Shojaeddin Shaikholeslamzadeh has warned that the mortality rate among Iranian children is the highest in the world.

Addressing the governors' seminar here, Shaikholeslamzadeh attributed the high death rate to a lack of proper drinking water in rural areas and public disregard for preventive medicine.

Contaminated water consumed in rural areas causes various types of intestinal diseases, keeping the child mortality rate at 120 per thousand people.

Shaikholeslamzadeh reiterated that there was considerable danger from a number of different diseases, including El-Tor, unless hygienic water was provided at the village level.

The minister said health experts regarded hygiene as the top health priority, closely followed by preventive medicine.

Last year 10 children died of small pox in Bakhtiari villages in South Iran, when their parents failed to have them inoculated before the start of winter, he added.

But malaria had been totally eradicated from the country, the minister reported.

#### MORTALITY RATE DROPS

Teheran TEHRAN JOURNAL in English 11 Dec 77 p 3

[Text] Teheran--The mortality rate among rural children had considerably dropped as a result of the expansion of the piped water network on the village level, Minister of Health and Social Welfare Shojaeddin Shaikholeslamzadeh told the Governors' seminar in Kerman over the weekend.

In his address the minister called for the extension of the piped water network to the remotest parts of the country to ensure public health.

The minister said health experts regarded hygiene as the top priority, closely followed by preventive medicine.

The JOURNAL in its Thursday's issue erroneously reported the mortality rate figures. The error is regretted.

#### NEW INCENTIVES FOR DOCTORS TO RETURN

Teheran TEHRAN JOURNAL in English 17 Dec 77 p 3

[Text] Teheran--Thousands of Iranian doctors working abroad will be offered substantial incentives to return home under a Ministry of Health and Social Welfare plan released recently.

The scheme has stemmed from a two-year study on the unwillingness of many Iranian doctors to serve in Iran.

A research team of experts reported that around 5,000 doctors from Iran were practising in other countries.

If the ministry plan is implemented, returning doctors and their families will receive free air tickets, low customs taxation on accompanying assets and freight payments covering 150 kilograms of excess baggage.

The doctors will be able to choose where they work in Iran and free housing will be provided to those serving in provincial towns. They will receive higher wages and will be entitled to count work in their practice as part of military service.

The ministry cited a lack of awareness of changed conditions in Iran as one factor discouraging doctors from returning and special labor bureaus will be established in a number of countries to meet this information gap.

Outlining other factors which prompted doctors to remain abroad, the expert study said wages paid in foreign countries were higher than those obtainable from the public sector at home.

Other reasons were military service, customs duties, the previous lack of scientific and technical equipment in Iranian hospitals, costly air fares, the shortage of housing and schools offering foreign languages and the inability of many doctors to meet high capital costs of opening a practice in Iran.

#### JAMAICA

##### HEALTH MINISTER SAYS 'UNNECESSARY TO REGISTER CUBAN DOCTORS'

Kingston DAILY GLEANER in English 14 Dec 77 pp 1, 21 FL

[Text of statement by Health Minister Douglas Manley to House of Representatives on 13 December]

[Text] As a result of the allegations in a notice of motion tabled in this honourable house on Tuesday the 6th of December, 1977, as well as on account of numerous speculations appearing in the press concerning the status of the Cuban doctors, I wish to make a statement to set in perspective the work that is being done by them at the Sav-la-Mar Hospital. Specifically, I will address myself to the allegation that they are practising medicine without being registered, contrary to the law. The other allegations will be dealt with at another time.

I am advised by the law officers of the government that: The Medical Act does provide for the registration of medical practitioners by virtue of Sections 7 and 8.

Section 7 provides for a general registration and Section 8, subject to the Third Schedule to the act, provides for special registration. The third schedule contains categories of medical practitioners who may be specially registered and Paragraph (E) of the said schedule is as follows:

Medical practitioners invited by the government to undertake medical work in the government service on a full-time basis." It cannot be successfully challenged that the Cuban doctors fall within the above-mentioned category, neither is it denied that some of them are not registered at the present time.

Section 14 of the Medical Act at Subsections (1) to (3) creates offences where a non-registered medical practitioner practises medicine but not merely because he is unregistered. However, Subsection (4) (c) and (d) of Section 14 state that the provisions of Subsection (3) shall not apply to:

(I) Any person performing the functions which he is employed by the government to perform; and (II) Any person giving necessary medical aid in cases of urgent need without hire, gain or hope of reward. It is the contention that the Cuban doctors fall within those two categories and are therefore exempt from any penal sanction consequent on non-registration.

#### Legal

It seems to me that a medical practitioner who is performing duties for the government on a full-time basis is legally performing such duties whether registered or not.

If that were not so, then Subsection (4) of Section 14 would be superfluous which could not have been the intention of parliament.

A careful look at the provisions of the act discloses no impediment in the way of any unregistered medical practitioner practising medicine provided that he so practises for the government on a full-time basis. It is not correct therefore to say that the practise of the Cuban doctors is contrary to the laws of Jamaica when Section 14 of the Medical Act permits such a practice. It is also a proven and accepted fact that the Cuban doctors possess the necessary professional qualification which fits them for registration. Their registration is therefore, in the circumstances, a mere formality which is in the process of being satisfied.

I must also add that the status and authority of the Cuban doctors are in no way impaired because they are unregistered. Nurses, pharmacists and other personnel at the hospital are obliged to comply with their instructions.

Five of the Cuban doctors are now in Kingston going through the programme or orientation according to the recommendation of the medical audit evaluation team which recently conducted an investigation at Sav-la-Mar Hospital.

The remaining six who are not registered yet are now authorised to continue their work at the hospital.

Kingston DAILY GLEANER in English 15 Dec 77 pp 1, 18 FL

[Text] The GLEANER understands that decisions arrived at by the Ministry of Health with a visiting Cuban official last year June and approved by Dr. Ken McNeill were later changed by the political directorate headed by then Minister of Health Dr. Ken McNeill.

GLEANER investigations reveal that the decisions were:

That a minimum of two Cuban doctors would be stationed at each hospital;

That Cuban doctors would not be concentrated at any one hospital, but would be spread throughout hospitals in the county of Cornwall--viz-- Black River, Falmouth, Ulster Spring, Montego Bay, Savanna-la-Mar and Lucea;

That which doctors went where would depend on the needs at the hospitals and the availability of skills.

The GLEANER learned that the Ministry of Health identified areas of specialties for which there was need, and discussions were held on personnel with the Cuban representative.

But the political directorate under Dr. McNeill the minister later decided that all 15 doctors who came in September 1976 should go to one hospital only--the Savanna-la-Mar. This decision was taken on political grounds, it is believed.

The Cuban doctors were not introduced to their counterparts, and they received no orientation--contrary to the plans made originally by the ministry.

The intervention of the political directorate under Dr. McNeill was also made into the question of the registration of three of the Cuban doctors.

The GLEANER learnt that the General Medical Council did not accept the registration of three doctors whose English was grossly deficient. The doctors were told to learn English for two months, and take a language test in medical communication at the end of that time.

Arrangements were made with the Ministry of Health for the test to be conducted two months later in November, but the GLEANER has learnt that the minister cancelled them; thus these doctors practiced in Jamaica for over a year without being registered. The other 12 were registered. The GLEANER has learnt that the Ministry of Health was made aware of this fact of non-registration earlier this year, but that the official stand taken was not as Dr. Douglas Manley has now told Parliament, that registration was unnecessary, but that as the doctors were leaving anyhow, between September and October, no useful purpose would be served

by pressing for their registration, or by starting proceedings for prosecution.

## LIBYA

### NUMBER OF HOSPITALS TO BE BUILT, OTHERS TO BE EXPANDED

Tripoli AL-JIHAD in Arabic 27 Nov 77 p 1

[Article by Muhammad Bashir Hamid]

[Text] Dr Muftah al-Usta 'Umar, the secretary of health, yesterday morning signed seven contracts with a Bulgarian company to build two hospitals in al-Zahra' and Ibn Ghushayr and to expand four hospitals by adding 250 beds to each. These hospitals are for gynecology, obstetrics and pediatrics and are located in Zulaytin, Darnah, Misratah and Gharyan. The seventh contract is for the construction of a main drug warehouse in Sabha. The total cost of the contracts amounts to 23,307,285 Libyan dinars. The contracts were signed for the company by its general director. The 1 September revolution is thus adding another accomplishment to its great revolutionary accomplishments in the health sector.

After signing the contracts, the brother secretary of health said: We have started the implementation of an ambitious plan to develop health services in our dear Jamahiriyyah and to study the various aspects and methods of the health service to guarantee that this generation is given an integrated intellectual, physical and spiritual upbringing, to enable it to build the first Jamahiriyyah in a manner compatible with the developments of the age and to secure for it stability and happiness.

He added that health in its broadest sense means preparation for life and enabling every person to achieve the highest possible standard of physical and psychological health and of social awareness that make him capable of reshaping life in his society in a manner compatible with the developments of the age and of securing stability and happiness. When health achieves these objectives, it will have achieved its purpose in life. It is well known that this great accomplishment is part of the recommendations of the general popular congress that was held in the past few days.

## MALAYSIA

### POLIOMYELITIS CASES

Kuala Lumpur Domestic Service in English 0000 GMT 11 Dec 77 BK

[Text] A total of 111 poliomyelitis cases with four deaths were reported in peninsular Malaysia this year. All states, except for Perlis and Negeri Sembilan, were affected. Last year only 31 cases with a death were reported. Nearly all the victims were children who had not been immunized. About two-thirds of the victims, who are age three and below, are from new villages, mining areas and rubber estates.

### ANTIDENGUE CAMPAIGN

Kuala Lumpur Domestic Service in English 1130 GMT 29 Dec 77 BK

[Text] The number of cases of dengue fever this year is lower than that of last year. The Director General of Health, Dr Raja Ahmad Nurdin, said on 29 December that there were 380 cases, including five deaths this year. Last year there were 430 cases and 34 deaths. He said the decline was the result of a new strategy started by the ministry. Dr Raja Ahmad said the ministry was carrying out another antidengue campaign next month.

## MEXICO

### 'ALARMING INCREASE' IN TUBERCULOSIS REPORTED

Mexico City EL SOL DE MEXICO in Spanish 4 Jan 78 p A-10

[Text] Tuberculosis is increasing at an alarming rate in Mexico and now figures among the 10 leading causes of death; and, although according to the statistics there are about 200,000 ill of the disease, it would appear that there are somewhat closer to 400,000 cases and 30,000 new cases occur each year.

Dr Sergio Estrada, chief of the Immunology Department of the National School of Biological Sciences of the [National] Polytechnical Institute (IPN), points out the foregoing and discloses that this institute is making studies to determine the direct causes of this illness and the measures that must be taken to diagnose it early, so as to be able to abate and control it.

He remarked that this is a highly contagious disease which has not been given the attention it deserves; and, through apathy, the majority of

the people suffering from it fail to go to a doctor until they are seriously ill and have become carriers who infect those around them.

He called for permanent vaccination campaigns against tuberculosis through all the public health facilities and improvements in food handling, the latter to include not only [greater] cleanliness but the boiling of milk.

#### MOZAMBIQUE

#### SMALLPOX ERADICATION CERTIFICATE

Maputo NOTICIAS in Portuguese 18 Dec 77 p 1

[Text] Next year, during an international conference to be held in Maputo, the World Health Organization will award Mozambique a certificate for the eradication of smallpox. The minister of health, Helder Martins, let this be known during the report made a few days ago on his ministry's activities during the past year.

Smallpox is a disease which, for the first time in the history of mankind, has disappeared. The last known case was discovered on 18 November of last year.

But the first worldwide declaration of the eradication of smallpox can be made only some months later, that is, in February 1978. However, the final declaration that smallpox no longer exists will be in November 1979.

#### BUBONIC PLAGUE AND OTHER VACCINATION MEASURES IN TETE

Maputo NOTICIAS in Portuguese 25 Dec 77 pp 3, 11

[Text] To avoid the spread of the bubonic plague in this province, we have adopted stringent regulations for travelers coming from the Mutarara district. In this way, despite some difficulties, we have really succeeded in overcoming the disease, acting on the principle of "putting one's own resources to good use." For the time being, the vaccination campaign is now over. "We are now at the control stage in order to prevent another outbreak of this type of disease," said the Tete provincial head doctor, Enusse Normahomed, when he was speaking to NOTICIAS on the fight being launched at the preventive medicine level.

In the vaccination campaign, which ended last June in the Tete province, 732,038 persons were vaccinated. In order to accomplish this successfully, every human and material resource available in the province was mobilized, with the view to solving the transport and logistics problems.

"It stands to reason that the utmost effort was made for the vaccination campaign to reach every corner of the province. However, in places where enemy action was intense, we were not able to carry on the work as effectively as in the remaining districts. We are now going to launch the work in those areas insofar as possible," added the provincial head doctor, "because the necessary groundwork has already been laid."

Bubonic plague, which wreaked havoc on a part of the Mutarara district, is directly connected with last year's agricultural campaign. According to information given by the provincial head of health in Tete, the outbreak is transmitted by wild rats through fleas. These rats generally appear in places where agricultural products, especially cereals, are concentrated. This rodent, when in contact with residential areas, is a medium of transmission for the bubonic plague microbe.

"When the disease was discovered, prompt measures were taken to combat it quickly. At first, we ran into difficulties in combating the outbreak because the bubonic plague is a disease that is easily spread, which makes control very difficult," the health chief said, "especially under our circumstances."

With the view to safeguarding the people's health, the launching of an extensive vaccination program is planned for early next year with the help of international organizations. This program, drawn up at the last meeting of the Coordinating Health Council, seeks to carry out its vaccination campaign with the main objective of diminishing the incidence of measles and infant mortality.

"Appropriate conditions have already been established to support this program. We have worked out a small program designed for mother-infant protection, in which we make it clear that by the 31st of this month, in every health unit in the province, pregnant women should be examined and vaccinated, in order to prevent the possibility of infants being born with diseases, in particular, with tetanus," said the provincial medical chief.

After birth, the above-mentioned doctor also told us, children should be examined periodically in mother-infant protection consultations. They will have their own file cards, they will be vaccinated when they reach the ages for determined vaccines. During consultations, the basic concepts of health education and nutritional education study programs based on the province's main products will be administered.

The Tete provincial head of health then mentioned the need for every organization to participate actively in the mobilization of the people in order that the program drawn up be successfully carried out.

## NEW ZEALAND

### SUSPECTED INFECTIOUS DISEASES

Christchurch THE PRESS in English 24 Nov 77 p 7

[Text] Two children from the Rangiora district who contracted amoebic dysentery were among 13 cases of suspected infectious diseases reported to the Health Department in Christchurch last week.

Further investigations into the amoebic dysentery cases are being made in Rangiora after a report of the two cases by a general practitioner.

Other cases of suspected infectious diseases reported were three cases of food poisoning, four cases of infectious hepatitis, and one case each of serum hepatitis, salmonella, pulmonary tuberculosis, and non-pulmonary tuberculosis.

### SALMONELLA CAMPAIGN UNDERWAY

Auckland THE NEW ZEALAND HERALD in English 24 Nov 77 p 2

[Text] Otorohanga--Detection and prevention of salmonella, an infectious disease, has become a matter of national importance, the Otorohanga County Council was told.

The Department of Health said a screening programme of all dairy factory workers has begun for the detection of the salmonella organism.

It entails thorough investigation of cases of disease and contacts and is to be carried out jointly by departmental and local authority inspectors.

### IMPROVED WATER SUPPLY

Christchurch THE PRESS in English 9 Dec 77 p 9

[Excerpt] The Department of Health has for some time been advising local authorities of the need for purifying and improving local water supplies; and, since 1965 the population served by satisfactory water supplies has risen by 14 per cent to a record 84 per cent.

REPORT ON 'NOTIFIABLE DISEASES'

Christchurch THE PRESS in English 24 Dec 77 p 3

[Text] Nine notifiable disease cases were reported to the Department of Health in Christchurch last week. They included three cases each of infectious hepatitis and salmonella, two cases of food poisoning, and one case of non-pulmonary tuberculosis.

The number of new cases of venereal disease seen at the Christchurch Venereal Disease Clinic in November totalled 33.

NIGERIA

TYPHOID CARRIER IDENTIFIED, PRECAUTIONS TAKEN

Kaduna NEW NIGERIAN in English 20 Dec 77 p 3

[Text] The Plateau State Ministry of Health has traced the carrier of typhoid fever recently reported in [the] Lafia Local Government Council area.

A statement issued and signed by Mr. J. M. Samci, Permanent Secretary, Ministry of Health at the weekend, stated that it started from a student of Keffi Government Teachers' College, who fell sick, and was conveyed home by his brother for treatment.

At first, it said, it was presumed that the sick student whose name was not given was suffering from jaundice, "but when it was discovered that he was not responding to treatment, the health officer at Lafia ordered him to go to the hospital where his blood sample was taken to Jankurno hospital, Jos, for 'microbiological examinations.'

"The result was positive that he had typhoid fever," the statement added. The ministry had taken measures to control the outbreak of typhoid fever in Lafia and had despatched a team of health workers to inoculate persons in the affected areas and advised them to take sanitary precautions.

This was to ensure the effective central and total eradication of the disease.

It stated that there was no cause for alarm, but strongly advised the people in the area to boil their drinking water before use.

PEOPLE'S REPUBLIC OF CHINA

ANTISTAPHYLOCOCCUS MEDICINE

Peking NCNA in English 0707 GMT 23 Nov 77 OW

[Text] Harbin, Nov 23--Heilungkiang Province has succeeded in developing a new medicine which is effective against staphylococcus infection that resists treatment by antibiotics. Used in 560 and more clinical cases, the new medicine, a toxoid, has an 83.8 percent rate of effectiveness. It is used to cure boils and recurrent cases of carbuncles, where effectiveness is 83.6 percent. Against traumatic infection the rate is 93.9 percent and against folliculties 72.8 percent. It is also effective against a dozen other kinds of infections. This new medicine is given by injection and does not require an allergy test. This medicine activates the antibodies to combat bacteria. The bacteria does not develop a tolerance to the drug so it may be used for long periods in small doses. The new medicine was successfully developed through the cooperation of the Heilungkiang Institute of Applied Microbiology and a Shenyang unit of the People's Liberation Army.

LI TE-SHENG ATTENDS NORTH CHINA HEALTH CONFERENCE

Peking NCNA in English 0724 GMT 16 Dec 77 OW

[Excerpts] Shenyang, Dec 16 (HSINHUA)--The leading group for the prevention and treatment of endemic diseases in north China under the Central Committee of the Communist Party of China met here recently. The meeting discussed plans to bring under control or wipe out several diseases endemic in north China, including goitre, Keshan's disease and Kaschin-Beck's disease.

Li Te-sheng, member of the Political Bureau of the CCP Central Committee and head of the leading group, spoke at the conference. The leading group for the prevention and treatment of endemic diseases in north China's 16 provinces, municipalities and autonomous regions was set up in 1960 with the approval of the Central Committee headed by Chairman Mao.

The meeting reviewed work done since the last meeting in 1973. Some counties and cities have brought under control or wiped out one or more major endemic diseases. For instance, in 1972 six localities had virtually controlled goitre. Now in 136 cities and counties, cases of goitre are rare and over 7 million patients have been cured. Keshan's disease is now treated with marked effect by means of sodium selenite. This is regarded as a breakthrough in treating this disease. Progress has also been made in finding the causes of Keshan's disease and Kaschin-Beck's disease.

The imminent leap forward in China's national economy behooves institutions for the prevention and treatment of endemic diseases to mobilize all forces to control these diseases and restore all patients to good health, in the quickest possible time. Scientific research must be strengthened to discover the causes of endemic diseases. The role of barefoot doctors and the cooperative medical service must be fully utilized. Cooperation between the medical institutions of the Chinese People's Liberation Army and the local medical departments must be consolidated.

PERU

DIPHTHERIA OUTBREAKS REPORTED IN LURIGANCHO

Lima CORREO in Spanish 20 Nov 77 p 12

[Excerpts] The occurrence of three outbreaks of diphtheria, a disease which develops rapidly and claims the lives of its victims within several hours, was announced yesterday in his district by the governor of San Juan de Lurigancho.

In connection with the announcement made by Governor Jose Mendoza Colchado, the local health authorities reported one case and said that they had undertaken vigorous measures to prevent the spread of the dangerous and fatal disease.

Mendoza told the reporters that because of the danger of the diphtheria outbreaks, School No 0086 in the urban area was immediately closed on Friday.

He stated in a dramatic tone, "We must act rapidly because the lives and safety of the 20,000 children living in the San Juan de Lurigancho area are at stake."

In view of the situation, it was announced at the medical center being built in the Huascar squatters' settlement that a massive vaccination campaign was started in order to check the spread of the disease and that it has yielded excellent and positive results.

"The situation is practically under control," stated an authorized member of the medical center in the absence of chief physician Mario Chuy Chui, who could not be located at noon when the governor's alert was announced.

It was also said at the medical center that diphtheria is endemic, like measles and typhoid fever, and that it is being controlled.

## SUSPECTED WATER SUPPLY BLAMED FOR TYPHOID IN PISCO

Lima LA PRENSA in Spanish 22 Nov 77 p 15

[Text] Pisco, 21 Nov--The water of dubious quality which the population of Pisco consumes is one of the main causes of the continuous outbreaks of typhoid, especially among the youngsters of the countryside, the young towns and the poor sections, Dr Humberto Cortez Cahuas stated here.

He said that the disease can also be traced to the proliferation of trash piles, latrines, stagnant drains and other sources of infection which attract thousands of flies, mosquitoes and other vermin which become transmitting agents of the ailment.

Contagion is likewise evident in the use of dishes and other wares used in the street sale of food and beverages, as well as in the scant hygiene of the low-class hotels, said Dr Cortez Cahuas.

He recommended that the water consumed by the population be boiled beforehand. The water supplied to our homes leaves the Pisco River in the open and goes through irrigation ditches, small farms and settlements until it reaches the sedimentation wells, which are covered by bulrushes and exposed to the invasion of vermin and other foreign objects, Dr Cortez explained.

He pointed out that the water of the sedimentation wells is conveyed through old pipelines to the reservoir, which has hardly ever been cleaned, and finally piped to the homes.

Dr Cortez also emphasized the urgency of constructing the integral sanitation works of Pisco.

## MALARIA CASES HAVE INCREASED EVERY YEAR SINCE 1969

Lima LA PRENSA in Spanish 24 Nov 77 p 1

[Text] Malaria has increased and expanded year after year since 1969. The number of cases have grown since that year until 1976, from 2,010 to 18,643, announced Dr Pedro Russac, director of the Transmissible Disease Eradication and Control Office, yesterday.

The increase, he said, is evident in the three regions of the country. On the coast, he said, the cases have increased from 170 in 1968 to 6,023 in 1976; in the inter-Andean valleys, from 593 to 4,915; and in the jungle, from 1,970 to 13,833.

This increment, Dr Russac pointed out when addressing the Fourth Peruvian Congress of Microbiology and Parasitology, has coincided with natural

disasters and weather changes during that period, that is to say, the earthquake and the floods in the middle north and extreme north, respectively, of the country.

It is also caused by the increase in the cultivation of rice, the migratory movements of the population, the flight of professional personnel, the lack of resources, the administrative-budgetary inflexibility and the withdrawal of UNICEF support.

After analyzing the positive and negative aspects, Dr Russac ended by reporting that the eradication of malaria in the country is a long-term objective, that it is possible to prevent the resurgence of the disease if the epidemiologic vigilance is intensified and action taken accordingly, and that it is possible to stop the transmission in reinfected controlled areas of the coast and the inter-Andean valleys on an intermediate-term basis if all resources available at this time were to be used.

#### LARGE NUMBER OF INFECTIOUS DISEASES REPORTED

Lima EXPRESO in Spanish 26 Nov 77 p 3

[Text] The minister of health, Lt Gen Humberto Campodonico Hoyos, Peruvian Armed Forces, revealed yesterday that infectious diseases make up 89 percent of the cases cared for in the country's hospitals. They are also the cause of half of the deaths that are recorded.

The announcement was made in the course of a brief speech at the inauguration of the Infectious and Tropical Diseases Unit of the Cayetano Heredia de San Martin de Porres Hospital. The unit was built and put in operation with an investment of 33 million soles, part of which was financed by the government of Malta.

Campodonico Hoyos mentioned that this unit will serve as a model for those to be installed in the future in the Amazon Forest area, where they are greatly needed.

He also emphasized that the project inaugurated would help to overcome the lack of specialized services for communicable diseases, and qualified as an urgent necessity the installation of health establishments of this type.

The ceremony was attended by the ambassador of the Sovereign Order of Malta, Dr Fernando Espa y Cuenca, who expressed his desire to continue support of the Cayetano Heredia Hospital, particularly in its fight against leprosy.

REPORT ON MICROBIOLOGY AND PARASITOLOGY CONGRESS

Lima LA CRONICA in Spanish 26 Nov 77 p 7

[Text] It was announced yesterday by Dr Augusta Yi, scientific secretary of the Fourth Congress of Microbiology and Parasitology, that rabies cases in metropolitan Lima had dropped to zero, thanks to the control measures exercised by the health authorities via the pilot program.

In this connection, while reporting the conclusions of the congress which finished yesterday, Yi said that the control measures must nevertheless be maintained and that the personnel in charge of administering vaccinations must be trained.

He also pointed out that another recommendation made by the congress was that similar pilot programs for rabies control should be set up in various parts of the country.

In another area, he mentioned that the congress recommended that the Peruvian Government organize a national system for food protection. Activities pertaining to food quality control should be centralized in this system.

He went on to say that this control program must have a high priority in the governmental decision-making process and that it must respect both national and international quality control norms.

Yi said that at present Peru has serious deficiencies in food protection because of the lack of a system such as the one mentioned above.

The president of the congress, who spoke at a press conference held in one of the rooms of the PETROPERU building, said that typhoid fever had been very prevalent in 1976, but that it had fortunately declined in 1977.

Dr Jose Vergara said that nevertheless strains had been discovered which were resistant to antibiotics, especially chloromycetin, and that this was caused primarily by the indiscriminate use of this drug.

Dr Luis Valdivia Valdivia, a consultant on communicable diseases to the Ministry of Health, pointed out that penicillin had been found ineffective in many cases of syphilis and gonorrhea.

He said that this had been observed in numerous studies in other countries but that to date Peru had not had any cases of syphilis or gonorrhea resistant to penicillin.

In another part of his statement, he indicated that it would be possible for thousands of persons to have positive serology and therefore to have syphilis or to have had it some time in the past.

Finally, he pointed out that the congress had concluded that eradication of malaria was one of the principal goals of the Peruvian Government.

#### INCREASE IN VENEREAL DISEASE REVEALED IN CAPITAL

Lima LA PRENSA in Spanish 27 Nov 77 p 21

[Text] According to Dr Luis Valdivia, consultant on communicable diseases to the Ministry of Health, an increase in venereal diseases, primarily syphilis and gonorrhea, which the health authorities find excessive and alarming, is currently being noted in Lima.

He said that, according to group estimates, more than 6,000 out of 100,000 inhabitants in Lima have been infected. In the Sierra, the average is 4 to 5 for every 100,000 persons.

Other epidemiologists, including Drs Heran Lozano and Abelardo Tejada, concurred that venereal diseases were on the increase among the young people. As reasons for the increase they pointed out the new treatments resulting from sexual contact [as published] and the freedom in adolescents' love affairs.

Individuals between the ages of 15 and 40 years are affected most, although in exceptional cases disease has been encountered in children 9 and 10 years of age. These findings were revealed at a roundtable discussion held in conjunction with the Fourth Peruvian Congress of Microbiology and Parasitology, which concluded yesterday.

The alarming aspect derives from the fact that the disease responds less and less to traditional penicillin therapy, as has been reported in 17 countries. The antibiotic is still effective here.

#### RHODESIA

#### EDITORIAL URGES GOVERNMENT MEASLES CAMPAIGN

Salisbury THE RHODESIA HERALD in English 29 Nov 77 p 8

[Editorial: "Measles Campaign"]

[Text] Salisbury's Medical Officer of Health, Dr Davies, has made a very strong case for an urgent campaign to vaccinate children against measles.

In an article in the HERALD last week he appealed to the Government to make available a full dose of vaccine for every child between nine months and a year.

It is true that the breakdown of health services in some areas because of the security situation has created difficulties. But, as Dr Davies points out, the influx of children into the urban areas means vaccination is more readily available to a significant proportion than would otherwise be.

Dr Davies raises questions about the potency of the vaccine in use today. An answer is called for from the Government. A detailed statement on the measles question and the steps being taken to deal with the epidemic would be timely.

#### ANTHRAX OUTBREAK CONTROLLED

Salisbury THE RHODESIA HERALD in English 4 Jan 78 p 7

[Text] An outbreak of anthrax among cattle and humans, in Rushinga in the north-east operational area, has been controlled by the quick action of the Department of Veterinary Services and the Ministry of Health.

The Assistant Director of Veterinary Services, Dr A. D. Hurrell, said yesterday that one animal case in a TTL had been confirmed last month and all cattle in the entire area had been vaccinated.

The outbreak was now under control, and revaccination of the cattle would be carried out annually for the next three years.

He admitted that the vaccination exercise, three weeks ago, had "not been easy" because of the security situation.

Tribute was paid to the Veterinary Dept yesterday by Dr L. Westwater, Provincial Medical Officer of Health for Mashonaland, who said: "They did a first class job under very difficult circumstances."

People can catch the disease--which begins with a malignant boil by handling infected meat. Dr Westwater said that she was unable to confirm that there had been one death.

The disease had been diagnosed in a man who had later died, but relatives had removed the body before a post mortem could be held.

Four other tribesmen had been flown to Karanda hospital for treatment, and were now recovering. The medical assistant in Rushinga had been supplied with drugs for treatment if necessary, but no further cases had been reported.

## SINGAPORE

### INFLUENZA OUTBREAK

Singapore THE STRAITS TIMES in English 12 Jan 78 p 1 BK

[Text] The "flu" outbreak in Singapore is continuing unabated and is likely to remain that way for the next 3 to 4 weeks. A spokesman for the Health Ministry's outpatient services said yesterday there had been a 127 percent increase in the number of such patients at outpatient dispensaries during the week 2-8 January compared to a normal week. She said the situation had been a little more stable over the last 2 days and was expected to improve in 3 to 4 weeks. She urged parents to take note of any sudden fever in their children and to either treat the condition with panadol or disprin or take them to the doctor. In the meantime, during the current influenza B virus outbreak, which is affecting both young and old, people should keep away from crowded places. The Ministry of Health first announced the outbreak on Saturday, saying there had been a 100 percent increase in outpatient attendances during the week of 26 December to 1 January.

## SOUTH AFRICA

### SYPHILIS IN ALEXANDRA

Johannesburg THE STAR in English 24 Dec 77 p 5

[Text] A virtual doubling of the incidence of syphilis in Alexandra in the past ten years is causing grave concern in health circles.

This emerges from the annual report of the medical officer of health, Dr H. Nelson, of the Transvaal Board for the Development of Peri-Urban Areas.

## TANZANIA

### MEASLES OUTBREAK IN NORTH

Lusaka TIMES OF ZAMBIA in English 27 Dec 77 p 3

[Excerpt] Dar es Salaam--Five children have died and 20 others have been admitted to hospital following an outbreak of measles into Wa Mbu, in northern Tanzania, reports from the areas said.

A health official said children in the area were now being inoculated.

## CHOLERA OUTBREAKS

Dar es Salaam UHURU in Swahili 30 Dec 77 p 5

[Text] One person has died in the village of Mwanya, in Ulanga District from a disease which is feared to be cholera. Five other people have been hospitalized in Mahenge and Turiani as a result of this disease which broke out in Morogoro Region early this week. It was reported in Morogoro that five people have been hospitalized, two in the hospital in Mahenge and three in Turiani where a special investigation is being undertaken. The director of development of Morogoro Region, Jacob Lupembe, said in Morogoro yesterday that it is not yet known whether this disease is cholera. Lupembe said that the region is waiting for the results of the investigation which is being made to determine whether this disease is cholera. In a protective measure, the leaders of the region have placed the districts of Kilombero, Ulanga and part of Turiani in Morogoro District under a quarantine for 7 weeks to make it possible to determine whether this disease is cholera. A group of physicians from the hospital for Morogoro Region are now in Turiani to provide medicines. In Mwanza four people died in the hospital in Bugando Tuesday from a disease which was said to be unknown. According to reports from this hospital, three other people have been hospitalized there from the unknown disease. Reports said that seven people were stricken suddenly with the disease on Christmas but the chiefs of the hospital refused to say anything else.

Dar es Salaam UHURU in Swahili 4 Jan 78 p 5

[Text] Three people have died from cholera in the Hospital of Saint Francis in Ifakara out of 31 patients who were admitted to the hospital, a spokesman of the hospital stated yesterday. At this time, it is known that another patient died in his home near Ifakara after his brother refused to have him transported to the hospital by stretcher. Workers in Ifakara are continuing an intense campaign to instruct the people about the danger of cholera and how to prevent the spread of this infectious disease. During their session yesterday morning, the members of the campaign said that almost 75 percent of all inhabitants of the villages in the vicinity of Ifakara do not have toilets. He added that often more than 10 people usually use only one toilet. In Tanga, the regional chairman of the Revolutionary Party [CCM], D. Semkwia, issued a severe warning against the belief in using witchcraft to treat cholera. He stressed that the people there have this kind of belief as a result of ignorance and that it constitutes a significant danger for health and development. He warned also that the only means of preventing this disease is to maintain cleanliness in body, food, water and environment and also to use preventive medicine.

Lusaka TIMES OF ZAMBIA in English 8 Jan 78 p 3

[Text] Provincial medical officer for the Northern Province, Dr Mahindra Patel, said in Kasama that cholera has again broken out in Tanzania.

Addressing the provincial cholera committee meeting chaired by the provincial political secretary, Mrs Esther Banda, Dr Patel said since the province shared border with Tanzania and it was necessary that preventive measures were taken immediately to check the situation.

Dr Patel said it was a national challenge to prevent cholera, adding that the success depended on collective approach coupled with health education by the community.

"Immunisation against cholera is incomplete and limited for a very short period but the key factors to prevent this disease include drinking safe water, hygienic habits and proper refuse disposal system," Dr Patel explained.

#### EXPANSION OF CHOLERA QUARANTINE

Lusaka TIMES OF ZAMBIA in English 14 Jan 78 p 1

[Article by Brown Lenga]

[Text] Dar es Salaam, Friday--More villages and towns in Tanzania have been placed under quarantine following the spread of alter cholera which has so far claimed several lives.

The government taking measures to contain the contagious disease announced yesterday that Ifakara and Mahenge districts in Morogoro region about 220 km from Dar were placed under quarantine and ordered all schools to be closed indefinitely in Tanga region north of here. Other affected areas put under quarantine included Mtwara district southern Tanzania, some parts of Moshi, Lindi and Iringa.

#### CHOLERA EPIDEMIC

Dar es Salaam UHURU in Swahili 17 Jan 78 p 1

[Text] An official statement issued yesterday by the Office of the Prime Minister in Dar es Salaam said that it is absolutely prohibited for anyone to depart from or enter villages or cities in which there is an incidence of cholera. Also the government ordered that hotels, all food and vegetable markets, and clubs selling pombe [intoxicating drink prepared from millet, bananas, and sugarcane] be closed immediately in villages or cities with an incidence of this disease. It was also

ordered that celebrations or meetings of any kind in areas affected by this disease be discontinued until further announcements. Fishing and sales of fish in Bwawa la Nyumba ya Mungo, in Kilimanjaro Region have been prohibited until further notice. Moreover, as of now, the government is taking responsibility for burying the bodies of all persons who die from cholera and it said that the relatives of deceased persons who died from cholera will be denied permission to bury their bodies. The government stated that it has been confirmed that 367 people have been stricken by cholera since the disease broke out in the country and that of these, 160 have died.

#### THAILAND

##### CHOLERA OUTBREAK

Bangkok BANGKOK WORLD in English 5 Dec 77 p 3 BK

[Text] Samut Prakan--One cholera fatality was confirmed today by the provincial hospital, bringing the toll from the disease to two this year, a report received by the WORLD said today. The official at the hospital identified the victim as 6-year-old Sombat Ketkaeo from Ban Ya Phak of Phra Pradaeng District who was admitted to the hospital in critical condition last week. About 30 other patients undergoing treatment for acute diarrhoea were placed on the list of cholera suspects.

Bangkok BANGKOK POST in English 7 Dec 77 p 5 BK

[Text] Health officials in Bangkok have been on full alert following a reported outbreak of cholera on both banks of Samut Prakan Province. According to figures released by the Ministry of Public Health's communicable diseases division, 14 cases of el tor cholera were reported in Samut Prakan Province between November 9 and November 26. No deaths occurred. In addition to Samut Prakan, 10 cases of cholera were reported in Bangkok; 18 cases in Ranong where 1 person died; 2 in Chumphon; 6 in Phang-Nga in which 1 died; 1 case reported in Phuket; 2 in Nonthaburi and 3 in Tak Province.

Bangkok NATION REVIEW in English 19 Dec 77 p 2 BK

[Editorial: "Future Outbreak of Cholera Must be Prevented"]

[Text] Reports of the outbreak of cholera are always unnerving and what is happening in Samut Prakan is no exception. With three deaths and about 100 confirmed cases of cholera, the outbreak has not reached epidemic proportions and we are confident that our Health Ministry officials

are quite capable of containing it and eliminating it. What they have failed to do however is to prevent the outbreak. This year's outbreak started when a Burmese carrier visited Ranong in the south to see his relatives. There was only one death in that province and another in Phangnga in October. The disease appears to have spread from there and taken some sort of a root in Samut Prakan. Reports of cholera in this province have been coming in since early November.

Samut Prakan is cholera-prone and has become part of the world cholera epidemic which has hit Southeast Asia (mainly Indonesia), South Asia, Middle East, etc. In 1974 there was a serious outbreak of cholera and the centre was Phra Pradaeng. There were 64 deaths and about 1,500 confirmed cases. The following year in 1975 Phra Pradaeng was again the place where cholera cases were noted. There were four deaths, 188 confirmed cases.

It appears quite clear that in recent years Samut Prakan has been having the problem of cholera and although no sweeping epidemic has resulted, the ingredients for it are there and we have to fall back on mass inoculations and then keep our fingers crossed. Since we are able to geographically pinpoint the source of trouble the Health Ministry should give serious thought to any possible future outbreak. Samut Prakan is an industrial area and naturally there are a large number of workers who are living in poor conditions of sanitation. Further the villagers there draw water from contaminated canals for daily consumption. The killer-disease manages to strike in this area when the rains stop and warmer weather prevails.

Health Ministry officials of course know about all this but they do not seem to have done anything about prevention. In order to prevent any further outbreak in Samut Prakan, the ministry should spare no effort to improve sanitation in that province and do its best to see that the water the people there consume is free of cholera germs.

Nobody can predict when an outbreak will become an epidemic and so it is essential that the ministry move ahead now to prevent any future outbreak. Further Samut Prakan is adjacent to Bangkok metropolis and it is very difficult to prevent infiltration of the disease into the city. Already a dozen cases of cholera have been reported in Bangkok. But luckily the infection was not strong enough to take hold because any outbreak in Bangkok, because of the congestion in the city, could spread widely. We congratulate the Health Ministry for always containing and eliminating cholera outbreaks but they must go one step further and prevent any outbreak by a massive sanitation campaign in Samut Prakan.

Bangkok DAILY TIME in Thai 22 Dec 77 p 16 BK

[Text] According to the director general of the Communicable Diseases Control Department, as of 16 December there were 97 cholera patients in

Samut Prakan Province and 22 in Bangkok. Three patients in Samut Prakan have died. It has been unofficially reported that about 30 more persons have contracted cholera in Samut Prakan and that there have been additional deaths. The director general said that out of the 22 cholera patients in Bangkok, 16 had contracted the disease long ago, meaning that only 6 are new patients. He termed the current state of cholera epidemic as not serious.

#### TURKEY

##### INTESTINAL INFECTION IN MARDIN, MEASLES IN TUNCELI

Istanbul CUMHURIYET in Turkish 28 Nov 77 p 9

[Excerpts] Mardin--Six persons have died within 3 days from intestinal infections in the village of Sunak, attached to Mardin's Idil sub-district. Thirty people--5 of them women--have undergone medical treatment for what health officials have termed an acute intestinal infection. Meanwhile, in the village of Karatas and in the subdistrict of Yesilyazi, in the Ovacik district of Tunceli, five children have died within the past week from an outbreak of measles. It has been reported that 20 children, having contracted measles, are undergoing medical treatment.

Five adults and a 3-year old died of the infectious disease, which is reported to have broken out on the third day of the holiday festival in the village of Sunak, in Mardin's district administrative center of Idil. Of 30 people who contracted the infectious disease, which began with dizziness, fever and diarrhea, 6 citizens, who were judged to be in serious condition, were admitted to the Mardin State Hospital. Meanwhile, the village where the intestinal infection was observed has been placed under quarantine.

##### RETURNING PILGRIMS HIT BY UNIDENTIFIED DISEASE

Istanbul CUMHURIYET in Turkish 2 Dec 77 pp 1, 9

[Text] Konya--Of a group of 15 people from Konya who had gone on pilgrimage, 3 died upon their re-entry into the city from a disease they had contracted, while 5 others were taken to the hospital in a state of coma.

The 15-member group, which had departed for the pilgrimage in a minibus under the direction of Mehmet Selcuk with a license number of 42 FA 073, became ill in Damascus upon the return trip. As the 15-member convoy of pilgrims, who had come as far as our city without undergoing any treatment, entered the city, Ali Dagli and his wife Serife Dagli

suddenly died. In addition, another member of the convoy, Ahmet Tasdemir, died in the state hospital to which he had been taken.

Meanwhile, driver Mehmet Selcuk, along with Abdullah Ay, Abuzer Toprak, Ayse Aydin, and Ahmet Coban, were taken in a state of coma to the Konya State Hospital. Members of the convoy of pilgrims stated that they had suffered from dizziness, nausea, and diarrhea on the journey from Damascus to Konya.

Dr Ekrem Yildirim, of the hospital staff, said: "The sickness may be an intestinal infection, or it may be some other sort of disease. Laboratory tests are being conducted, but the results will take 2 days." The corpses of the three victims have been placed under quarantine in the hospital.

#### CHOLERA IN RETURNING PILGRIMS

Ankara Domestic Service in Turkish 1700 GMT 14 Dec 77

[Text] Our correspondent has learned from officials of the Ministry of Health and Social Welfare that cholera has been observed in some of the pilgrims returning from Saudi Arabia. However, the antibiotics given to them in the countries they passed through on their way to Turkey is making it difficult to make a full diagnosis. The officials said that the number of cholera patients might rise after the effects of the antibiotics wear off.

#### VIETNAM

#### RESULTS OF ANTIMALARIA CAMPAIGN

Hanoi NHAN DAN in Vietnamese 13 Dec 77 p 6

[VNA News Release]

[Text] From 6 to 8 December, the Ministry of Public Health held a conference in Nghia Binh Province to review the effort to combat malaria in 1977 in seven provinces of Trung Bo and the Central Highlands: Binh Tri Thien, Quang Nam-Da Nang, Nghia Binh, Phu Khanh, Thuan Hai, Gia Lai-Kontum and Dac Lac.

In the 9-month campaign to wipe out malaria in the provinces mentioned above, the Central Institute of Malaria, Parasites and Insects, the Quy Nhon Malaria Department and the malaria stations in the various provinces organized units to wipe out malaria in key areas and encouraged the people to respond to the campaign. Professional and specialized

training in combating malaria was carried out together with strengthening the public health network in the villages and hamlets. The spraying of mosquitoes was successfully carried out in 62 districts consisting of 690 villages, nearly three times more than in 1976, in the key malaria areas of the seven provinces, in which there are many new economic areas, worksites, state farms and forestry sites. More than 1,368,500 persons were cured of malaria (twice as many as in 1976). In Nghia Binh Province, the number of persons afflicted with malaria declined by more than 72 percent compared to 1976 and not one new case of malaria occurred. The department, the stations and the antimalaria units found a number of primary species of mosquitoes that carry malaria and conducted further examinations of their characteristics. The units went to each family to take blood samples and checked each person for parasites and malaria.

In 1977, the effort to combat malaria in the seven provinces of Trung Bo and the Central Highlands achieved encouraging results compared to 1976: the number of malaria cases declined by four-fifths and the incidence of malaria at places where tests were conducted declined by three-fifths to four-fifths.

#### MALARIA ERADICATION DRIVE

Hanoi VNA in English 1455 GMT 13 Dec 77 OW

[Text] Hanoi, Dec 13--Since the beginning of this year, 1,368,500 people in seven provinces of central Vietnam and the Central Highlands have been treated for malaria. This was reported at a conference in Nghia Binh Province called by the Ministry of Public Health from December 6 to review antimalaria work in 1977 in the seven provinces of Binh Tri Thien, Quang Nam-Danang, Nghia Binh, Phu Khanh, Thuan Hai, Gia Lai-Kontum and Darlac [sic]. The report said that in their months-long campaign the Malaria, Parasitology and Entomology Institute, and the Qui Nhan Malaria Sub-Institute have sent teams to affected areas to give short-term courses on malaria to local medical staff and to popularize antimalaria measures. They have supervised the spraying of DDT in villages, new economic zones, state farms and elsewhere. Initial results show that the number of germ-bearing people has dropped quickly. In Nghia Binh alone it was down by 72 percent compared with 1976. Twice as many people have been treated so far this year than last year, and the incidence of malaria has dropped to one-fifth. However, the report said, antimalaria work in these areas will remain a difficult task in the coming years.

## ZAMBIA

### CHOLERA PREVENTION CAMPAIGN

Lusaka TIMES OF ZAMBIA in English 18 Jan 78 p 5

[Text] The Ministry of Health has embarked on an extensive public health education programme in the mass media to educate the public on taking precautionary measures against cholera.

Acting director of Medical Services Dr Samson Mundia said yesterday the measures were being taken because of the outbreak in neighbouring countries on the northern and eastern borders of Zambia.

There have been cholera deaths reported in Tanzania and Mozambique.

Dr Mundia said cholera vaccine had also been rushed to the border areas but he would not say if any cases had been confirmed within the country.

He explained that since the ministry was responsible for health measures it had decided to embark on the prevention campaign which was being broadcast on Radio Zambia in local languages.

Dr Mundia said the situation in the border areas had been contained and he appealed to the public not to panic.

Asked whether the ministry would also embark on administering cholera vaccine to school children and the general public, he said such a decision had not yet been made.

"All I can say is that precautionary measures are being taken and we think this is quite enough at the moment."

### TEN PEOPLE REPORTED TO HAVE DIED OF SMALLPOX

Salisbury THE RHODESIA HERALD in English 24 Dec 77 p 7

[Text] Lusaka--Reports reaching here say 10 people have died and several others are lying critically ill in hospital in Mwinilunga in the remote north-western part of Zambia as a result of an outbreak of smallpox.

However Ministry of Health officials claim that they have no knowledge of the outbreak but are investigating the reports.

The Director of Medical Services, Dr Joseph Kasonde, said the Ministry had not received reports of the outbreak "because of a communication breakdown" with the affected area.

Posts and Telecommunications officials said the North-Western Province had been cut off from the rest of the country "because telephone lines were out of order."

The disease had been reported in some areas of Zambia in the past but it was believed to have been wiped out. Last September it was reported the country was now free of smallpox. The last officially reported attack was in 1968, IANA reports.

The September report said members of the International Commission on the Eradication of Smallpox would visit the country early next year for a survey which would lead to Zambia being declared officially a smallpox-free country.

However, a World Health Organisation representative, Dr Bheem Sehgal, warned that although there had been no signs of the disease in the recent past it did not mean the disease had been completely wiped out in Zambia.

## II. ANIMAL DISEASES

### AFGHANISTAN

#### PASTEURELLOSIS BROUGHT UNDER CONTROL

Kabul ANIS in Dari 27 Aug 77 p 10

[Text] During the first 5 months of this year [Afghan year starts 21 March] 70 head of cattle were treated for pasteurellosis in the Animal Clinic of the capital of the Nangarhar province. A source at the Department of Agriculture of this province said that likewise during this period of time 151,897 head of cattle and fowl in the capital and dependencies of the Nangarhar province have been immunized against pasteurellosis. The source also said that as a result of vaccination and quarantining the incidence of pasteurellosis in Nangarhar province has decreased by 95 percent compared with the beginning of this year.

### BOTSWANA

#### FOOT-AND-MOUTH OUTBREAK REPORTED

Gaborone DAILY NEWS in English 20 Dec 77 pp 1, 4

[Text] The Vice-President and Minister of Finance and Development Planning, Dr Q. K. J. Masire, on Friday evening addressed the nation over radio on foot and mouth disease outbreaks.

The following is the full text of the Statement:

The foot and mouth outbreaks have been a severe blow to the whole nation. They have hit export earnings and Government revenues, and they have also hit the pockets of thousands of private citizens who find that they can

no longer sell their cattle or even, in some cases, move them to the lands, or to fresh grazing, because of the restrictions we have had to impose on cattle movements and because of the closure of the Botswana Meat Commission.

We have always known of these risks, and we have experienced them before. One cannot eliminate risks from commercial livestock operations, and individual farmers know that they have to plan for such problems.

I am, nonetheless, aware that the costs will be borne more heavily in some areas than others, and there is no justice in this. I would not wish to pretend to you that we can remove these burdens altogether, but we are in a better position than before to spread them a bit more evenly, and to offer some relief to those worst affected.

We are, naturally, most concerned to help those in the infected zones, for it is there that restrictions on movement will be maintained longest. By infected zones, I mean all areas north of the Kuke and Central Ngwato cordon fences. According to the rules of the European Economic Community, we are not able to slaughter any cattle from these areas for twelve months after the last case of the foot and mouth, although we shall try to negotiate a reduction of this period. At the other extreme, we hope to be able to slaughter cattle from south of the Dibete cordon fence very early next year. All other areas are "buffer zones," and we hope that the European Economic Community will allow us to start slaughtering cattle from these areas a month or two after the last cases in the infected zones, so that although they will face hardships, these will be much less severe than in the infected zones.

We are also very concerned by reports that people in the infected areas are being taken advantage of by speculators who are offering very small cash advances on cattle and making vague promises that some further payment will be made when sales from the zones are permitted.

If we were to forbid such transactions, we would merely worsen the position of the livestock owner who needs cash. Our first step, therefore, must be to make it possible for these livestock owners who find themselves in these circumstances to obtain reasonable amounts of ready cash for their cattle.

What we propose to do sounds simple, but is really revolutionary. We propose that government should give farmers in the infected areas interest-free loans using cattle as security. Two mobile teams will be formed by the Botswana Livestock Development Corporation and a flat rate loan of P50 will be given for each animal of acceptable quality. The owner will enter into an agreement either to sell to BLDC over the scales or to refund the loan with interest in cash when movement out of the infected zones is de-restricted. The cattle will be ear-tagged, and branded with an "authorised creditor" brand, which will mean that it will be illegal

to either buy or sell them or raise further credit using them as security without the agreement of the Botswana Livestock Development Corporation until the loan is repaid. The animals will be left in the care of their owners, but it will be in the owner's interest to look after them, because if they die or are lost he will still have to repay the loan, or replace the animal, whereas if they put on weight, he will obtain a better price when he ultimately sells them.

At least at the beginning of this scheme, it is proposed to restrict the scheme to castrated male animals, because this reduces the risk of financial loss to government. I should point out that this is a serious matter, because any losses will have to be borne by the whole nation. For the same reason, it will be up to the Botswana Livestock Development Corporation to decide whether an animal is of acceptable quality. Clearly we are not going to lend P50 on the security of an animal whose market value is less than that. I should emphasise, however, that this will be a loan. We are not proposing to buy cattle for P50 a head.

I am afraid we shall not be able to put this scheme into operation until we are sure that no new fresh cases of foot and mouth are occurring because until this is the case, we cannot risk encouraging even limited movements of cattle.

However, the signs are very promising, and I hope that by announcing the scheme in advance, we can prevent people making sales to speculators that they will later regret. Lastly, you will note that the scheme will be restricted to the infected areas. We shall not be able to consider extending it to the buffer zones unless we find that movements from these zones are likely to be restricted for a long period.

This is just a bare outline of the scheme the government proposes. The details still have to be worked out. I believe, however, that it will do much to make up for the loss of normal market outlets in the infected areas.

In addition, we propose to take measures to ensure that people can actually sell cattle at fair prices in part of the infected zones.

The Botswana Livestock Development Corporation is normally the largest buyer in these zones. There is no commercial reason for it to buy cattle in these zones over the next twelve months, as it will not be able to sell to BMC. However government intends to operate a special buying operation, using BLDC as its agent, and to fill the Odiakwe and Makalamabedi BLDC ranches to capacity over this period. This will be a smaller operation than the loan scheme, but will inject a considerable amount of cash into the infected area east of the Ngamiland cordon fence, and again help to create a market at reasonable prices.

I would like to take this opportunity to remind cattle owners in the more fortunate southern areas what they can do to help. It will be

obvious, I think, that once restrictions on movement from the buffer zones north of the Dibete Fence are lifted, there will be a great demand for marketing quotas from those areas, and these may be greater than the capacity of the BMC. Naturally we shall wish to give priority to the areas that have been held back. Producers south of the Dibete Fence can therefore help the nation, and themselves, by offering as many cattle as possible as soon as the abattoir opens, since they may subsequently find it impossible to get quotas. High offtake in this initial period will also be of great value to BMC.

The measures I have just described are both intended to provide extra cash in infected areas. The Government has also been considering measures that will relieve people of the need to make cash payments.

The foot and mouth disease outbreak has come at a time when every parent has to meet cost of his or her children's education and the Government is aware that for a large proportion of parents cattle sales are the main source of cash for payment of school fees. The Government has therefore also considered relief measures in the field of education. Again it is proposed that some of the measures should be confined to those areas which are most seriously affected.

Regarding primary school fees the Government has decided to waive payment of the fees during the first term of the 1978 school year in all schools within the infected and buffer zones. This decision will be reviewed towards the beginning of each subsequent term in the light of the situation at that time. In addition, the Government has decided that the rule that children should wear school uniforms will be relaxed in these areas.

As it is expected that the BMC will open early next year for the area south of the Dibete Cordon Fence the relief measures I have just stated will therefore not apply in schools in that area. School fees will be paid as usual. Similarly, the measures will not apply in those primary schools in the five main towns in the country namely Gaborone, Francistown, Lobatse, Selebi-Phikwe and Orapa. It is believed that the majority of parents in these towns depend on wages or regular salaries which are not affected by foot and mouth disease.

The question of secondary school fees has also been given serious consideration. The Government recognises that for many parents this will present a considerable problem but even more so for those who depend largely on cattle sales but will not be able to sell in the immediate future. It has therefore been decided to allow parents to postpone payment of secondary school fees in all schools in the country for those children whose parents' source of income is cattle sales. The Government appeals for the co-operation of those parents who do not fall within this category to pay their school fees as usual. It should be made clear that even for those who are exempted from paying immediately

the obligation to pay is not waived but only postponed. When their areas become open for them to send their cattle to the BMC they will be required to pay the full fees for the year. It is therefore expected that parents will wherever possible pay fees normally to avoid having to pay accumulated arrears at a later date.

The government is considering other possible measures to ease the situation and is also studying the effects that the outbreak will have on the economy and hence our capacity to pay for further measures. I hope, however, that the measures I have announced will demonstrate our concern with the problems being encountered by the people, and will make a substantial contribution to relieving those problems.

Gaborone DAILY NEWS in English 22 Dec 77 p 1

[Article by Samuel Moribame]

[Text] The outbreak of foot and mouth disease will cost the Botswana Meat Commission more than P5 million in sales of boneless beef and by products by the end of this month.

The BMC had a normal closure of its plant on October 14 and would have opened on November 14 had its programme not have been interrupted by the outbreak.

An official of the BMC, Frank Boakgomo said from 14 November to the end of December, the BMC expected to have a cattle kill of 21,000 which would have represented over P5 million in sales.

Asked about the effects of this to the BMC he said the commission was spending roughly P25,000 in administrative costs such as electricity, water and wages whereas the amount of profit had dropped.

And as how the closure of the BMC affected the workers, Mr Boakgomo said they are temporarily redundant since they were released from the specialised tasks of processing meat. But, said he the employees were engaged in casual tasks around the premises.

Although the BMC continued to pay for their normal wages, the tasks that they were engaged in did not bring direct revenue to the BMC.

Asked if the Corporation might be forced to dismiss their employees, Mr Boakgomo said they had no intention of reducing their 1500 odd employees.

He said they hope the BMC situation would return to normal shortly in which case the employees will assume their usual jobs.

"But," he warned, "if the situation persisted indefinitely and for a long time to come, we will have no alternative but to reduce the workers."

Some days ago, the Vice President Dr Quett Masire said the foot and mouth outbreaks have been a severe blow to the whole nation. They have hit export earnings and Government revenues, and they have also hit the pockets of thousands of private citizens.

The Vice President announced far reaching measures to alleviate the sufferings of people in the affected areas.

Gaborone DAILY NEWS in English 4 Jan 78 p 1

[Text] The Minister of Agriculture E. S. Masisi has said that Government is aware of the fact that the current outbreaks of the foot and mouth disease in some parts of the country would gravely affect the income of most of Botswana farmers.

"Government is at the moment making plans to assist farmers financially in affected areas where they could not send their cattle," he said.

Minister Masisi said this during his visits last month to Maun, Mopipi and Rakops. He was addressing farmers about the outbreak of the disease which had occurred at Gweta, Mopipi and Nokaneng.

The Minister appealed to all livestock owners to co-operate fully with the Veterinary Department who are doing everything possible to eliminate the outbreaks. He advised them to ensure that they bring all their livestock for vaccination against the foot and mouth disease.

The Agriculture Minister warned farmers not to move cattle from one area to another as this was spreading the disease and prolonging the period that the area would be prohibited from sending cattle to the Botswana Meat Commission.

The Minister said that some irresponsible people had already moved cattle from the area and spread the disease. He added that such people would be prosecuted by the police for illegal movement of cattle. The Minister was accompanied on his tour by Permanent Secretary in his ministry, Mokhutshwane Sekgoma and Bamangwato Tribal Authority, Mokgacha Mokgadi.

Meanwhile the Botswana Meat Commission announced last week that it would be deprived of over P5 million in sales of deboned beef and by-products from November 14 to the end of December following the foot and mouth disease outbreak.

And an official of the BMC recently announced that the slaughterhouse would be opened today (January 4) for cattle to the south of the Debeti

Quarantine Camp. He added then that the BMC would be open to cattle from all other areas as soon as the current outbreaks of the foot and mouth disease has been eliminated.

Observers feel that the difficulty that the Veterinary Department is facing in combatting the outbreak is that it has coincided with the ploughing season. Most people during this time move their cattle from the cattleposts to the lands for ploughing.

#### BRAZIL

##### IMMUNIZATION OF GOIAS CATTLE INITIATED

Sao Paulo FOLHA DE SAO PAULO in Portuguese 18 Dec 77 p 47

[Text] The Ministry of Agriculture in Goias received another consignment of vaccine to combat bovine rabies, in the total amount of 120,000 doses produced by the Leivas Leite Laboratory. It will be used for the immunization of cattle in the northeast region of the state.

The distribution will begin tomorrow when 10,000 vaccines will be sent to each of the Taguatinga and Dianopolis areas, the most affected by the outbreak. The amount sent can be increased depending on need. Because the Ministry of Agriculture does not have a cold-storage vault to store the vaccine, which has to be kept at a temperature from 2 to 8 degrees below zero, use will be made of the JK and Materno-Infantil hospitals' cold-storage equipment.

According to Secretary Antonio Augusto Azeredo Coutinho, of Agriculture, as soon as the state overall vaccination stage is over, that portfolio will be freed to fight against bats, which are carriers of rabies, in an operation called "dracula."

#### CUBA

##### SWINE DISEASE CONTROL METHODS DEVELOPED

Havana JUVENTUD in Spanish 7 Nov 77 p 2

[Text] Ciego de Avila (AIN)--An innovative method to combat Aujeszky's disease in swine herds which was developed in this province by specialists of the Institute of Veterinary Medicine (IMV), has produced positive results.

This disease is common to swine herds throughout the world, affecting the animals with loss of appetite, fever, nervous disorders, spontaneous

abortions and death in some cases. Its presence in a swine raising or fattening center has customarily resulted in the total shutdown of the activity for several years.

With the system devised by Drs Alberto Chavez and Ramon Primitivo Puig, the centers continue their activities; and the disease is eliminated without damage to the economy.

The application of epizootic measures after arresting the focus and a continuous sanitizing effort was complemented by gradual replacement with young pigs in an adjacent feeder installation which had been decontaminated beforehand.

The new swine herd, free of the disease, permitted maintenance of the total production volume while the affected herd was being subjected to treatment and reincorporated into the fattening process.

Chavez and Puig discovered that disinfection could be accomplished in stages, after eliminating all contacts between the groups. The method proved its efficacy with 783 litters and 6,967 healthy animals.

Both researchers say that the most effective action against Aujezsky's disease is the elimination of the principal transmission link, which often consists of the reserve of the pathogenic agent in the development medium (the animal carrying the virus), the isolation of which is mandatory.

#### EAST GERMANY

##### FRG, GDR CONTINUE TALKS ON VETERINARY AGREEMENT

Hamburg DPA in German 0941 GMT 10 Jan 78 LD

[Text] East Berlin--The fourth round of negotiations between the Federal Republic and the GDR on a veterinary agreement began this morning in East Berlin. Among the points still to be cleared up are details concerning the formulation of the set of agreements and the inclusion of West Berlin in the agreement. The federal government has again made the conclusion of the agreement dependent on such an inclusion. The agreement is designed to improve the exchange of information on livestock epidemics and combating them.

Bonn's permanent representative in East Berlin, State Secretary Guenter Gaus, yesterday gave the talks on the veterinary agreement as an example of the continuation of intra-German negotiations, although the relations between Bonn and East Berlin were considerably handicapped as a result of the GDR measures against Western journalists.

## LAOS

### INOCULATION ACTIVITIES

Vientiane BULLETIN QUOTIDIEN in French 27 Sep 77 p 2

[Text] From the beginning of the year until this month the veterinary services of Savannakhet and Luang Prabang have sent cadres to care for the people's domestic animals. In Luang Prabang, the cadres gave inoculations to 88 buffaloes, 155 oxen, and 171 pigs in [Meuang] [district] Siang Ngeun and [Meuang] Chomphet. In Savannakhet, 21,709 buffaloes, 14,736 oxen, 7,325 pigs, and 1,705 chickens were inoculated. In addition, these cadres conducted several campaigns among the people to popularize prophylactic and hygienic methods for animals.

Vientiane KHAOSAN PATHET LAO in Lao 3 Oct 77 p A 7

[Text] From early August through September, the Meuang [district] Hin Boun and Meuang Nong Bok veterinary offices inoculated and treated cattle belonging to people in various villages in these districts in order to insure healthy animals to serve production. During these 2 months, they treated over 960 diseased cattle, buffalo, and pigs, including 138 buffalo. Along with this, they inoculated over 1,000 cattle and buffalo and over 2,000 pigs. The determined work of the veterinary units in inoculating the people's animals cured them of disease.

Vientiane KHAOSAN PATHET LAO in Lao 13 Oct 77 p A 6

[Text] In early October the Sayaboury Provincial Agricultural Office sent a veterinary team to examine animals belonging to people in Meuang [district] Hongsa and Taseng [canton] Houai Khoua Louang, Meuang Sai where disease had broken out. After a short time they were able to cure the diseased animals and examine and inoculate most of the animals there.

Vientiane BULLETIN QUOTIDIEN in French 12 Oct 77 pp 3, 4

[Text] Thanks to careful direction and the preventive inoculation campaign of the local veterinary staffs, the size of the livestock of the district's population of Mai, province of Phong Saly, has increased rapidly since the beginning of the year. Today, in this locality, 5,500 draft animals are counted. In addition, during this year, the number of domestic animals of the inhabitants of the Meuang Nasathong district (Vientiane) increased continuously. There are in that district

more than 60,000 buffaloes and oxen, more than 3,000 pigs and goats and several tens of thousands of poultry. This increase is caused on the one hand by the active care given to the animals by the population and on the other by the staffs of the veterinary service of the district who acquitted themselves with devotion.

Vientiane BULLETIN QUOTIDIEN in French 22 Oct 77 p 3

[Excerpts] During this month, the staffs of the Agricultural Service of the district and of the province of Champassak as well as of the district of Vapi, province of Saravane organized themselves into teams to carry out an animal inoculation campaign. They inoculated more than 280 oxen, more than 350 buffaloes and 270 pigs.

#### MADAGASCAR

#### RABIES-AFFECTED AREAS

Antananarivo JOURNAL OFFICIEL DE LA REPUBLIQUE DEMOCRATIQUE DE MADAGASCAR in French 3 Dec 77 p 3092

[Excerpt] Effective 24 November the entire subprefecture of Miarinarivo and Tsiroanomandidy (Antananarivo Province) are declared to be affected by rabies.

Antananarivo JOURNAL OFFICIEL DE LA REPUBLIQUE DEMOCRATIQUE DE MADAGASCAR in French 10 Dec 77 p 3133

[Excerpt] Effective 6 December, the entire Fivondronam-pokontany of Marolambo and Faritany of Toamasina are declared to be contaminated by rabies for 60 days.

#### NEW ZEALAND

#### STRONGER ATTACK ON MASTITIS

Auckland THE NEW ZEALAND HERALD in English 28 Nov 77 p 5

[Text] Mastitis, an infection estimated to cost the New Zealand dairy industry \$40 million a year in lost production, will come under a much stronger attack from the start of the next dairy season in June next year.

Dairy farmers will have the use of two control schemes, run by the Ministry of Agriculture and Fisheries and the Livestock Improvement Association.

The ministry says the schemes will be worked up over the next three years to provide farmers with a monthly bulk-milk monitoring service and regular analysis of each cow's mastitis status.

Mastitis, an inflammation of the udder in dairy cattle, may be treated by antibiotics and the loss to the industry comes partly through the unacceptability of milk containing antibiotic residues.

#### Field Study

The infection also causes numbers of cows to be culled from the herd to stop them being sources of continuing infection. Affected cows show a reduction of milk production and even after recovery a cow may not return to former peak milk yield because of damaged tissue in the udder.

Three years of field study by the Veterinary Services Council have shown that the average farmer, with a 170-cow herd, loses about \$2,250 through mastitis each dairy season.

The ministry says for an average outlay of \$1,000 on disease prevention farmers in the study have reaped around \$3,250 in extra production.

#### Rates Cut

On some farms the return has been up to 400 per cent on the investment.

"In line with overseas survey findings, infection rates on the surveyed herds were cut by 60 to 80 per cent by improved milking management," it says.

The pilot national milk quality advisory service set up by the ministry's National Dairy Laboratory in 1973 and operated by seven dairy companies, has successfully identified each company's problem herds over the past three seasons.

As a result the incidence of mastitis within those companies' supply herds has been cut by half.

"Through much reduced antibiotic residues in bulk-milk, companies have been able to boost production of premium dried-milk products," the ministry says.

Next season the ministry hopes the control scheme will involve all dairy companies with the companies being encouraged to operate their own programmes and the ministry adopting a monitoring role.

Surveys indicate that mastitis affects just under 1 per cent of the national herd at any one time with 14 per cent of the herd showing evidence of clinical mastitis at some time during a season.

#### Sampling

While the ministry has been working on improving milk quality through dairy company bulk-milk supplies, the Livestock Improvement Association has started a more direct approach which will enable mastitis-infected cows to be tracked down quickly.

It involves a bimonthly service with most farmers sampling the cows themselves. If a sample has more than 300,000 cells of the bacteria a millilitre the farmer is encouraged to consult a veterinarian.

Most farmers involved in the early stages of this scheme already have a copy of their herd's results, provided by the Livestock Improvement Association, forwarded to their veterinarian and farm adviser.

"Once a farmer finds a mastitis problem in his herd he should seek professional advice," says Mr Alan Twomey, superintendent of the National Dairy Laboratory. "By improving his herd recording techniques, adopting correct milking methods and following a five-point plan, the disease can be beaten."

#### SENEGAL

##### CONTAGIOUS BOVINE PLEUROPNEUMONIA OUTBREAK

Dakar LE SOLEIL in French 5 Jan 78 p 4

[Text] The CDD (Departmental Committee?) recently assembled in Fongolimbi, main town of the same ward, under the presidency of the prefect of the department, Mr Ibrahima Malamine Tandian, attended by his assistant.

After this clarification, the prefect called on the head of the animal breeding sector, Mr Mamadou Ndao who presented his report in two parts. The head of the departmental service of animal breeding informed the CDD that a center of bovine pleuropneumonia (coming from a nearby district) had decimated nearly the whole of the herd of Fodecounda, a village situated some 65 km from Kedougou, in the ward of Fongolimbi.

#### A Killing Disease

Talking about this epidemic, Mr Mamadou Ndao mentioned that the pleuropneumonia remains the deadliest disease for cattle after the cattle

plague. The cattle of the Ndama race which stock the department of Kedougou are particularly susceptible to this disease, he added. In conclusion, Mr Ndao maintained that, for the time being, the center of infection can be considered circumscribed within the limits of the infected area, after he described in detail the preventive measures taken to remedy the situation.

On behalf of the CDD the prefect then addressed his warm congratulations to the head of animal breeding sector who, despite his reduced means, managed to fight efficiently this infectious center of pleuropneumonia.

#### SOUTH AFRICA

##### WARNING REGARDING RABIES

Johannesburg THE STAR in English 13 Dec 77 p 5

[Text] Holiday-makers going to the Northern Transvaal and Eastern lowveld have been warned against the danger of rabies in the area.

The assistant director of Veterinary Services in Pietersburg, Dr L. R. Hurter, said today that holiday-makers should ensure that pets they take to these areas have been inoculated against rabies.

"The inoculations must have been done at least one month ago to be effective. Actually they should rather leave their pets at boarding kennels as this is an actively infected rabies area," Dr Hurter said.

#### SOUTH-WEST AFRICA

##### ANTIRABIES CAMPAIGN

Windhoek THE WINDHOEK ADVERTISER in English 14 Dec 77 p 1

[Text] Okahandja--The residents of the Black town here have responded well to the anti-rabies immunisation campaign launched recently.

A total of 300 dogs were immunised, bringing the total to 805 since the start of the campaign.

The local veterinary surgeon, Dr John Shaw, deemed this step necessary after numerous cases of rabies were reported.

## UGANDA

### FOOT-AND-MOUTH DISEASE

Kampala UGANDA WEEKLY NEWS in English 8 Jan 78 p 1

[Text] The Acting District Veterinary Officer, West Ankole, Mr. Bon Byebwa announces the outbreak of foot and mouth disease in Bitoma Parish of Kyamuhunga Sub-county of Igara county. Following the outbreak of the disease, quarantine restrictions have been imposed on Kyamuhunga [sic] sub-county.

Until further notice no animals or their by-products are allowed to leave through or enter the area under quarantine. The chiefs and the public are asked to co-operate.

## ZAMBIA

### UNIDENTIFIED CATTLE DISEASE

Lusaka SUNDAY TIMES OF ZAMBIA in English 18 Dec 77 p 1

[Text] Nawinda villagers in Sesheke are up in arms over lack of veterinary services causing a serious cattle mortality in the area. Party constituency youth chairman, Mr Charles Manyando, said yesterday that recently about 30 head of cattle belonging to peasants had died of a disease which villagers could not identify. Mr Manyando said people had time and again complained to the Government through the Party, but no help had been forthcoming from the veterinary people. Veterinary officials in Livingstone could not comment on the matter because, they said, Nawinda fell under Western Province and was administered by people in Sesheke district. According to Mr Manyando, the disease currently posing great danger to cattle was different from foot and mouth disease which the villagers are familiar with. The local people call it "black and red" disease, but by yesterday it was difficult to establish whether there was, in fact, a cattle disease technically known by that name.

Lusaka ZAMBIA DAILY MAIL in English 9 Jan 78 p 3

[Text] A mysterious and deadly disease has killed several herds of cattle in Chief Mwanachingwala and Sianjalika in Mazabuka district, the area's veterinary officer Dr L. M. Bell has confirmed.

Dr Bell who declined to give details on the disease and the number of animals killed so far admitted that several herds of cattle had died in the past two months.

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But sources within the veterinary department disclosed that about 350 cattle died between December and January this year from the disease called "Corridor."

The source who said that the death rate was increasing every day also said that the most affected areas were those in Chief Mwanachingwala and parts of Chief Sianjalika.

Meanwhile the veterinary department is to embark on an intensive disease control measure in the two areas to curb the increase in the number of diseased animals.

A spokesman in the department said that the measure will include provision of disinfectants to cattle farmers as well as encouraging them to utilise dipping tanks.

### III. PLANT DISEASES AND INSECT PESTS

#### AFGHANISTAN

##### PLANT DISEASE CONTROL

Kabul ANIS in Dari 29 Aug 77 p 8

[Text] During the past 5 months over 4,500 hectares of agricultural lands and more than 511,000 fruit-bearing and non-fruit-bearing trees were sprayed with chemical agents, in order to protect them against plant diseases and pests, by the scientific personnel of the preservation of plants of the Main Administration of the Development of Agriculture of Samangan province. A source at that administration said that on the treated farm lands on 1,848 hectares, baits against field mice were used whereas 2,700 hectares were sprayed with chemical agents against harmful pests and weeds. The source added that the spraying of plants against diseases and pests by the personnel in charge, in the center of that province and its outlying areas, is being continued.

##### AFGHAN-SOVIET COOPERATION

Kabul THE KABUL TIMES in English 17 Jan 78 p 4

[Text] Kabul, Jan. 17 (BAKHTAR)--The protocol for cooperation in the field of plant protection and quarantine was signed in Kabul last Sunday between the Republic of Afghanistan and the Soviet Union.

The protocol was signed and documents were exchanged in the presence of caretaker Agriculture Deputy Minister Fazli Rahim, Rahim, by heads of delegations of the two countries to the 33rd alternate conference on plants protection and quarantine.

Under the protocol and on the basis of resolutions of the alternate conference the Soviet side will give Afghanistan 1,200 tons B.H.C.

powder for campaign against locust as grant in aid and will also cooperate in equipping the research labs on wheat parasites in Herat and Balkh and the research labs that will be established by Agriculture Ministry in Kunduz, Herat, Balkh and Kandahar provinces.

Likewise, the Soviet and Afghan experts will cooperate with each other, when needed, in campaign against locust and will jointly cooperate in fighting against quarantine and non-quarantine diseases for protection of plants.

A source of the Agriculture Ministry added that on the basis of this protocol eight technical personnel of the Ministry will be sent to the Soviet Union for higher education in the field of plant diseases.

According to another report the Soviet experts delegation headed by Anatoly Krasov, Director of Plants Protection Department of Soviet Agriculture Ministry who had come to Kabul to participate at the alternate conference in Kabul left for home. He was seen off at Kabul International Airport by President of Plant Protection Department of the Agriculture Ministry Ali Mohammad.

#### BRAZIL

##### INVASION OF LEAF MINER

Sao Paulo FOLHA DE SAO PAULO in Portuguese 17 Dec 77 p 18

[Text] According to Anibal Blanchine da Rocha, president of the Maringa Rural Union and member of the IBC [Brazilian Coffee Institute] Advisory Board, because of the heavy invasion of the leaf miner in the Parana coffee plantations, the coffee crop expected for the coming year will be much smaller, hardly surpassing the limit of 4.5 million bags.

#### IRAN

##### COTTON PEST REAPPEARS IN GORGAN

Teheran ETTELA'AT in Persian 26 Nov 77 p 4

[Text] Gorgan--Once again the "thorny worm" has been seen on cotton farms in the Gorgan region and has inflicted losses on the farmers.

According to statements by a large number of farmers and those involved in agricultural affairs, a number of thorny worms have been seen on cotton farms in the Gorgan region during the past few days. If the

responsible authorities do not take action to confront them as soon as possible, next year's crop of cotton, which is one of the country's biggest exports, will decrease noticeably. The damages which were inflicted on the farmers of this region by the outbreak of the thorny worm in 2524 (1965-66) will be repeated.

In 2524, the outbreak of this pest on farms in the Gorgan region destroyed a considerable amount of the cotton crop and inflicted severe financial losses on the farmers.

Fortunately officials did not treat the matter lightly, and with their efforts and activities and those of the farmers the pest was eliminated from the region by chemical and agricultural means.

#### VEGETABLE PESTS STUDIED

Teheran ETTELA'AT in Persian 15 Dec 77 p 33

[Text] Construction of institutes for studying vegetable pests in nine areas of the country has begun and is continuing rapidly. The Ministry of Agriculture has announced that these institutes are located in Bandar-e Pahlavi, Tabriz, Reza'iyeh, Kermanshah, Zanjan, Ahvaz, Bandar 'Abbas, Shiraz, and Jiroft. The Reza'iyeh and Kermanshah institutes have 2,700 square meter buildings which cost 70 million riyals each to build. The Kermanshah Institute for the Study of Pests will open next month. The Reza'iyeh Institute will be ready for use by Amordad (July-August) of 2537 (1978-79).

#### MEDITERRANEAN FLY THREATENS ORCHARDS

Teheran ETTELA'AT in Persian 4 Dec 77 p 25

[Text] The Ministry of Agriculture warned orchard owners today to watch out for the Mediterranean fly and to carry out all recommendations of the Plant Protection Organization in combating this pest.

A spokesman for the Ministry of Agriculture called the Mediterranean fly dangerous and confirmed that the pest has been seen in some parts of the country on peach, apple, pear, fig, and persimmon trees.

In order to protect their crops, orchardists and farmers must gather up and burn all the fruit which has fallen from the trees as soon as possible. Prior to the onset of the winter cold weather, the contaminated orchard and surrounding lands must be plowed to a depth of at least 10 cm immediately, before a freeze.

The Ministry of Agriculture spokesman confirmed that experts and officials from the Plant Protection Organization have been mobilized throughout the country to guide the orchardists and farmers.

#### LACK OF QUARANTINE ALLOWS PEST TO INVADE FARMS

Teheran ETTELA'AT in Persian 18 Dec 77 p 24

[Text] The report of inspections conducted by the Imperial Inspectorate Commission on "Agricultural Affairs and Food Products" on the plans of prevention of agricultural spoilage--Article one of order issued on 16 Aban 2535 [7 November 1976].

The Inspectorate Committee of the Imperial Commission on Agricultural Affairs and Food Products which consists of the inspectors of the Imperial Inspectorates, the representatives of the Ministry of Agriculture and Rural Development, Ministry of Commerce, the Resurgence Party of the People of Iran and the expert and chairman of the committee presented the report on the inspections held in the month of Mehr 2536 [23 September-23 October 1977] as follows:

1. The plan of prevention of spoilage of agricultural products in Khorasan.

##### A. Pest Control Project

This project has been considered to be implemented over a 20,000 hectare area in the Province of Khorasan according to a time scheduled plan to struggle with fruit tree pests, especially apple worm, larva, and lice which damage crops. The owners of gardens are in charge of performing the pest control operations, and the Plant Protection Organization of the Ministry of Agriculture and Rural Development is in charge of training, guiding the farmers on the manner and time of spraying poison, and of recommending suitable poisons. In cases where the farmers do not have the means to spray poison the spraying will be done by the group stationed in the province. The inspection of the executive officers revealed that by the end of Shahrivar 2536 [22 September 1977] pest control actions had been taken over at 32,126 hectares altogether. The inspectorate started its survey from the suburbs of Mashhad and continued to the Bojan area in Nayshabur and the Badranlu district in Bojnurd and Quchan. Local investigations and inquiries made with respect to the views of the farmers and the Union of the Rural Cooperative Companies indicate that pest control this year was conducted according to the time scheduled plan and that the necessary guidance was given to the farmers. Another matter that was revealed in the inspections was finding out about Mediterranean or fruit fly in the province of Khorasan. This fly is from the group of dangerous quarantine pests which damages peaches more than other fruit. In recent years

because of the expansion of fruit gardens and the import of foreign fruit in different seasons and the failure to follow complete plant quarantine regulations, conditions became suitable for the transfer and spreading of this pest. Based on research made by the Laboratory of Pest Studies and Plant Disease of the province, the rate of contamination is estimated as one-half to 1 percent and a pest center has been mentioned to be in five gardens in suburban Mashhad. However, further studies made in the province, especially in the Bojnurd and Nayshabur areas, revealed that the contamination percentage was higher than the figure presented. In the inspections the officials for plant protection stated that so far pest control with chemical materials had been exercised over 260 hectares, and that winter pest control actions had been taken over 747 hectares in gardens suspected of having pests. Nevertheless, the inspectorate believes that the investigations made by the Institute of Pest and Plant Disease of the Ministry of Agriculture and Rural Development in determining the contaminated areas and the pest centers for the purposes of preventing fruit orchards, especially peach gardens and other fruit producing areas, from getting contaminated have not been suitable and sufficient.

#### The Proposal of the Inspectorate

1. Considering the importance of pest damages and the extensiveness of the area from the viewpoint of fruit orchards, it is necessary to increase the knowledge and awareness of the farmers in fighting against plant disease and pests by holding short-term classes as well as by publishing and distributing simple instructions, strengthening and stationing guidance groups for fighting against pests and directing the farmers in the fruit producing areas in the province.
2. Completion of the district laboratory with the cooperation of the Institute of Plant Diseases and Pest Studies, the Plant Protection Organization of the Ministry of Agriculture and Rural Development for making further reconnaissance of the province from the viewpoint of the existing pests, occurrence of new pests and finding their centers.

#### The Project of Fighting Against the Kolahu Rat

According to a time scheduled plan, fighting against the kolahu rat (one of the dangerous types of field rodents which damage the wheat farms, especially the dry farming type) is to be performed from the first of Farvardin to the month of Tir 2536 [21 March-22 June 1977] over an area of 70,000 hectares. On the date of inspection, by studying the records and reports, it was observed that the plan had been performed over 56,403 hectares (about 80 percent of the plan). According to the officials of the Plant Protection in the Province of Khorasan, the reason why the full program had not been performed was because either there were no pests or it was not economical. The inspections were held at Quchan area, Sarvelayat Nayshabur and Shirvan (Dovin village). After

studying the records on the poisons consumed and making inquiries from the farmers, it was found out that this year necessary actions were taken against the kolahu rat and that agricultural products, especially wheat dry farms, were prevented as much as possible from getting damaged.

The project of purchasing cold-storage vehicles for carrying meat in Teheran (the project of preventing meat and meat by-products from getting damaged).

The approval of the project, receiving credit and issuing notice of bids had been done according to the time scheduled plan. However, determining the contractor, assigning the work, starting the operations and providing chassis and freezers and installation of the cold-storage room which had to be completed until the date of inspection had not been done.

Based on the documents presented and according to the officials, the reason for the delay was determining the type and specifications of the truck and cold-storage room, and correspondence with the Ministry of Commerce and the Price Control Center as well as the formalities of the bid and its renewal.

The representative of the Ministry of Agriculture and Rural Development stated: The Ministry of Industry and Mines introduced four cold-storage truck manufacturing companies in Iran. As the companies did not have fixed prices, according to the comments made by the Price Control Center, actions were taken to make the purchase by bids. As the number of participants in the bid were not sufficient, the bids were limited. Then later on 26-6-2536 [17 September 1977] the contractor was determined and consequently the performance of the project was delayed. However, by making changes in the recent contract, new arrangements were made to have the project completed 2 months earlier than the specified time.

#### Those Responsible for the Delay or Lack of Performance of the Project

Although the operations have not been conducted according to the scheduled time of the plan, as presented to the Imperial Committee, the Inspectorate holds the State Meat Organization subordinate to the Ministry of Agriculture and Rural Development to be responsible for the delay.

#### Unexpected Inspection

The project of fighting against orchard pests and a general pest control action against farming pests (the plan for preventing spoilage of the agricultural products in the province of Sistan and Baluchestan).

1. According to the special conditions in the Sistan and Baluchestan areas, the struggle against plant disease and pest control is done freely through the organization of plant protection with the cooperation

of farmers. According to the time scheduled plan, pest control actions were planned for 600,000 fruit trees. By studying the reports presented by the officials of the plant protection in the province, it was determined that altogether pest control actions had been taken on 647,358 trees against such pests as the plant louse leech. The Inspectorate made an unexpected inspection in the Zabol area of Banjar-Arbab village. According to reliable local [officials] and farmers, as well as from investigations, there had been no economic damage sustained from plant pests.

2. The project of a public struggle against plant pests. The time scheduled plan had been planned for 10,000 hectares. According to the documents presented, pest control actions had been taken over 7,767 hectares against summer and patch crops and over 2,000 hectares against ear corn eating worms in Khash-Iranshahr and Saravan. According to the plant protection officials of the province, because of low population of pests and the existence of useful insects which are effective in maintaining a natural balance in the environment, the chemical pest control actions taken were sufficient and the agricultural products were prevented from economic spoilage. In general, in the province of Sistan and Baluchestan the farms and gardens are small and scattered, there is a shortage of water, and the farmers do not have sufficient knowledge of correct farming and gardening principles. The public does not pay attention to the effects of pests and plant diseases and spoilage of agricultural products as much as people and farmers are concerned about in other areas. For instance, in the Saravan area which was inspected the farmers had avoided spraying poison on the date palms, as they believe that it would result in falling of the dates. It is necessary, therefore, to increase the level of the farmers' knowledge in this area and, on the other hand, to conduct agricultural research in the province to determine the potentials and to find other types of products which are suitable with the ecological conditions of the area.

#### The Proposals and Comments of the Inspectorates

1. In order to make a full reconnaissance of the province from the viewpoint of agriculture and climate, it is necessary to station research units with the cooperation of the research institutes of universities and the seed supply and refinement institute subordinate to the Ministry of Agriculture and Rural Development.
2. To increase the knowledge of the farmers by way of the media and by publishing and distributing instructions on how to fight against pests and plant disease.
3. To establish sample gardens and farms by the Agriculture Development Organization for the purpose of making the farmers familiar with the new principles of agriculture and to introduce all types of seeds and young trees suitable for the ecological conditions of the area.

4. To make adequate research in recognizing pests and plant disease in the province and to be careful and conduct full supervision in chemical spraying with consideration of the existence of useful insects for the purpose of maintaining a natural balance in the environment.

The report on the inspections was reported to his majesty who issued orders to the government to follow up on the issue and to eliminate the problems.

#### LAOS

##### PEST CONTROL

Vientiane BULLETIN QUOTIDIEN in French 22 Sep 77 p 4

[Text] On the 19th of this month, the committee director of the struggle against the drought in Attopeu Province mobilized the youth of various provincial organizations and agricultural cadres to help the inhabitants of [Meuang] [district] Saisettha, [Meuang] Sansai, [Meuang] Samakkhi Sai, and [Meuang] Sanam Sai fight against pests with the aid of insecticide sprayers offered by the state. This campaign is developing in a very active fashion, particularly in [Meuang] Saisettha, where insecticide has been sprayed on 856 hectares of ricefields in the five cantons.

Vientiane BULLETIN QUOTIDIEN in French 24 Sep 77 p 4

[Excerpt] Last month, in order to help the population struggle against harmful insects and the drought that is raging in various districts, the department of agriculture of Savannakhet Province sent cadres and equipment, in particular 72 insecticide sprays, 5 tons of insecticide, 30,000 liters of fuel and 9 motor driven pumps.

Vientiane BULLETIN QUOTIDIEN in French 5 Oct 77 pp 1, 2

[Excerpts] During last September, the Agricultural Service of the Khammouan province sent more than 1.4 tons of insecticides and 42 spraying machines to the population of the 5 districts of the province. During the same period, the provincial Agricultural Service of Sayaboury sent specialized experts to train the population of the municipalities of Taseng Meuang Ham, of Taseng Na Bo Noi, district of Meuang Boten in destroying in time the harmful insects threatening the plantations of these localities.

Vientiane BULLETIN QUOTIDIEN in French 11 Oct 77 pp 3, 4

[Text] Khammouan

Recently, the Agricultural Service of the district of Meuang Thakhek, province of Khammouan sent its staff to fight the pests which are devastating plantations, notably in the district of Meuang Thakhek. They managed to spray insecticides on more than 200 hectares of paddies.

Houa Phan

The population of the commune of Sop Hao, district of Seang Khon, province of Houa Phan cooperated with the agricultural staff to organize a campaign against rodents, which played havoc with their paddies. Thanks to the creative idea, the population succeeded in exterminating the rodents.

Luang Prabang

Last September, the Agricultural Service of the province of Luang Prabang cooperated with the population of its eight districts to fight the grasshoppers and caterpillars which infested the plantations of this locality's population. They destroyed the pests on more than 700 hectares of paddies, utilizing more than 450 kg of insecticides. This service also sent 27 spraying machines with 500 kg of insecticides to the provinces of Sayaboury and of Louang Nam Tha. It is also learned that the pupils of the "Pasathipatay" (democracy) School recently endeavored to weed their collective farm, to eradicate harmful insects and to build composts.

Champassak

On the 2d and 3d of this month, the staff of the agricultural unit of the district of Meuang Pakse, province of Champassak organized a fight against pests which were devastating the plants in the paddies of the population in the municipalities of Taseng Pakse, Taseng Photak (10 ha). They also popularized modern and traditional methods for pest eradication, instructing the population of that region.

NEW ZEALAND

STEPS TAKEN AGAINST POTATO CYST NEMATODE

Auckland THE NEW ZEALAND HERALD in English 12 Dec 77 p 5

[Article by P. J. Freeth]

[Text] Potato cyst nematode, or eel worm, will be eliminated from the Pukekohe area in time, an Australian nematologist, Mr R. Brown, predicted in Auckland last week.

Mr Brown, who has been nearly four months in New Zealand on an Anzac fellowship, praised the steps taken by the Ministry of Agriculture and Fisheries following the discovery of the nematode in 1972.

"The decisions may have been unpopular," he said, "but they were very sound. Without them you would have had difficulty in establishing any control over the pest at all."

Discovery of the pest for a time disrupted the marketing of Pukekohe potatoes and placed growers under considerable strain.

Wherever the cyst was found, land was taken out of production and fumigated, some of the worst affected land going out of production permanently.

Research was done on methods of chemical control and scientists have been gaining a better understanding of the eel worm life cycle.

Mr Brown, who is head of the nematology section of the Plant Research Institute run by the Victorian Department of Agriculture, has been studying the effects of such measures during his time in New Zealand.

From his Australian experience he has been contributing knowledge of nematodes in other crops such as clover and cereals.

Only Spasmodic

He said that when little was known about a pest it was much better to impose restrictions promptly and then to relax them when this was found possible than to do the reverse.

"If ever we get potato cyst nematode in Australia," he said, "I hope we will handle it as well."

Australia is only a spasmodic market for New Zealand potatoes, but Mr Brown reinforces a recommendation by the Australian Industries

Assistance Commission that any embargo on New Zealand potatoes should be lifted.

Australian producer groups have been exerting some pressure to keep New Zealand potatoes out indefinitely but Mr Brown said that technically he could see no reason why New Zealand potatoes should not be imported for processing. The sodium hypochloride treatment was most effective in sterilising the skins.

#### Many Fields

"Too often," he said, "countries use a quarantine approach on some product with the real objective of maintaining the price for their own producers."

Anzac fellowships, jointly funded by the governments of Australia and New Zealand, were set up about 14 years ago to provide for reciprocal visits between the two countries by people in many fields, including science.

Mr Brown has been based in New Zealand at stations of the Department of Scientific and Industrial Research.

#### PEST PROBLEM STRIKES AMONG VEGETABLES

Wellington THE EVENING POST in English 11 Jan 78 p 8

[Text] New Zealand's pest problems have increased by one through the discovery in some vegetable gardens of the beet cyst nematode.

The nematode, *Heterodera schachtii*, has never before been found in New Zealand.

First recorded overseas on sugar beet--its favourite host--beet cyst nematode is a serious pest in that crop.

However, it will also attack fodder beet, silver beet, beet-root, mangels, red beet, spinach, turnips, swedes, all kinds of cabbages, cauliflowers, brussel sprouts, kale and rape.

Known weed hosts include chickweed, yellow mustard, and fathen.

#### Lemon-like

Beet cyst nematode is present in most temperate regions of the world; widespread in Europe; found in both eastern and western states of the United States; and in Canada, Australia and South Africa.

Mr C. J. Barber, a Ministry of Agriculture and Fisheries nematologist, said that although related to potato cyst nematode, beet cyst nematode was easily distinguished by its lemon-like rather than spherical shape.

"Eggs, contained in 1 mm long brown cysts can remain dormant for several years, but each year some hatch and emerge into the soil.

"Hatching is stimulated by chemicals released from the growing roots of host plants, but can also occur in the absence of hosts."

The root system of plants attacked acquired an excessively bushy appearance, he said. The first signs of infestation were the appearances in the crop of small patches of stunted plants and plants with unhealthy, yellowing foliage.

"The succession of crops on a particular site in many home vegetable gardens was probably an important factor in the nematode's development there rather than in commercial plantings.

"Adequate control can usually be obtained using crop rotation provided weed hosts are eliminated. In a moderately-fertile field, three or four years of non-host crops should reduce the nematode level sufficiently to enable host crops to be grown again without serious loss.

"DD, dazamet, organophosphorus and oxime carbamate compounds are used overseas to control the nematode. However, chemical control is expensive, specially when very high standards of application are demanded."

The full significance of the discovery had yet to be fully assessed, said Mr Barber.

"However, plans for the establishment of a sugar beet industry had been advanced a number of times and this discovery must be considered when contemplating such an enterprise."

#### POSSIBLE BIOLOGICAL CONTROL OF CEREAL CROPS

Wellington THE EVENING POST in English 19 Dec 77 p 4

[Text] A plant disease from Australia which has infiltrated the New Zealand quarantine system could provide an unexpected bonus in the biological control of cereal crops.

This was announced by Dr J. E. Sheridan, of the Victoria University botany department, after confirmation of the disease *puccinia oxalidis* in Wellington last week.

The disease spotted in Lower Hutt has conveniently turned up in the university's own garden, to attack the colourful weed oxalis--under the very nose of the botany department.

Although the discovery has caused some excitement, Dr Sheridan said its arrival in New Zealand about 18 months after its initial identification in Australia demonstrated the need for strict quarantine regulations.

But, this time--unlike the poplar rust which had all but wiped out a potential matchbox industry--the disease could be put to possible use in biological control.

The disease was discovered in oxalis plants in Auckland this year and has taken about eight months to reach Wellington.

Dr Sheridan is conducting tests with diseased plant samples to determine the extent of the *puccinia oxalidis*' damage. He feels it could be useful for biological control in diseased cereal crops in Wairarapa--the focus for his research.

While New Zealand could well benefit from this particular disease, the possibility of other diseases coming across the Tasman in visitors' footwear and clothing could have a grave effect on our economy.

#### The Need

Not that they all originate in Australia. This year, the dreaded stripe disease which affects barley yields, was introduced from Europe.

Dr Sheridan said this indicated the need for tighter quarantine regulations at our international airports. The contaminated stripe seed still infiltrated the system despite the Ministry of Agriculture's precautions.

He said the Ministry's capsan chemical treatment was ineffective.

Dr Sheridan is working on a simple "interception plan"--a portable box vacuum contraption, designed to suck spores from passengers' shoes and clothes. The box is fitted with a sample jar to collect contaminated material.

He hopes to test his invention, still in the early stages at Wellington Airport, in co-operation with the Ministry of Agriculture.

"It is important to know just what is coming in and then decide on the possible use of fumigants for aircraft and passengers," he said.

Acceptance?

But before the plan can swing into action, Dr Sheridan has to sell his idea to the authorities. He feels the public inconvenience would be minimal in the light of safeguards for New Zealand's commercial crops.

He emphasised the demand for more trained plant pathologists equipped to diagnose diseases. Dr Sheridan said New Zealand had only about 25. The greatest area of need was in the Ministry's field and advisory staff.

Footnote: Anyone spotting rust-covered oxalis weeds is asked to report the finding to the Victoria University botany department, to assist Dr Sheridan's research.

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